

Shaping Change

The University Addresses Society's Probing Challenges



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**Hochschule
Bonn-Rhein-Sieg**
University of Applied Sciences

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Bonn-Rhein-Sieg**
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Hochschule
Bonn Rhein-Sieg

Living diversity and social change

Hartmut Ihne, President of Bonn-Rhein-Sieg University of Applied Sciences, and Ralf Stemmer, member of Postbank's Board of Management, talk about digitalisation, women in leadership positions and the collaboration between academia and the business community.

- Each year Postbank supports eight BRSU students with a Germany Scholarship. What does this scholarship mean for you?

Hartmut Ihne: The scholarship provides students not only with 300 euros per month in financial support, but is also extremely valuable because of the contact it provides to top-class companies. Of course it also provides recognition for their achievements. All of this is extremely motivating for the students, and Bonn-Rhein-Sieg University of Applied Sciences (BRSU) benefits as well. The collaboration on the Germany Scholarship often leads to further cooperative projects, such as internship semesters, research projects or Bachelor thesis projects. So the scholarships are also very important for BRSU.

Ralf Stemmer: Postbank is always looking to bring skilled professionals to its headquarters in Bonn, so for us it's a big advantage to be able to work closely together with BRSU. Many young people want to work in their home city or region and the Germany Scholarship is a chance for us to establish relationships with the students while they are still pursuing their degrees and interest in our company.

- Is Postbank feeling the shortage of skilled labour?

Ralf Stemmer: We are an attractive employer – a fact confirmed every year by independent research institutes and Postbank's low employee turnover: our employees stay with us for 22 years on average. So our company also reflects the current demographics in terms of age distribution. This is a big challenge when it comes to securing a steady supply of qualified young employees into the future!

At the same time we are always looking for new skilled professionals to drive innovation. Mathematicians are in great demand, for example. In Bonn alone we employ 150 university grads whose sole responsibility is to develop risk models. And we have a lot of demand for talented young people in product development. Digitalisation plays an important role here. Our employees need to be "at home" in the digital world and be able to develop new digital-world products and ideas. Ultimately our success depends on how well we combine the bank's mobile services via online banking with the traditional services via our brick and mortar branch offices. So we want to bring our IT and Product Development departments closer together, so that questions about technical feasibility can be discussed early in the product development process – and as a way to promote innovation.

Hartmut Ihne: Technology and a global power shift are going to drive an explosion of change over the next several years. We are already seeing a change in demand for our



"We need to attract young talents and one of the keys to this is working closely together with Bonn-Rhein-Sieg University of Applied Sciences."

Ralf Stemmer

degree programmes. Last winter, for example, we received fewer applications than expected for more traditional disciplines such as electrical engineering and chemistry. This could be a sign that we need to do more to adapt our degree programmes to today's challenges and newly emerging professions – so that we remain attractive for future generations and employers. The technological sciences, for example, are rapidly merging with the computer sciences/IT, and I see tremendous potential here.

● **How has the relationship between employer and employee changed and how are you responding to this change?**

Ralf Stemmer: Ten to fifteen years ago our employees were concerned mainly about money and security. Today the focus is more on flex-time working models, a modern working environment, family-friendly policies, promoting health and well-being, etc. Postbank is working to supply this demand with new HR tools. As part of our internal human resources agenda and our new strategy development process, we listened carefully to our employees so that we could learn as much as possible about their needs and where there's still room for our company to develop and improve. That was very helpful.

Take the example of family. We are a family certified company and provide not only a company kindergarten, but also childcare services for emergency situations – for example when a child is sick and the parents don't have the option of staying home. Just recently we created a special family office in both Munich and in Bonn – an office that mothers and fathers can use whenever they have to bring their child to work on short notice.

Hartmut Ihne: Of course we've seen these changes at BRSU as well – new standards and requirements in the

area of family, work-life balance, etc. We have been family certified for several years now and introduced a health management system (see p. 41) in 2013. BRSU is very flexible when it comes to working hours and we give staff the freedom to be responsible for their own work and schedules. These kinds of options are extremely important if we want to attract and retain good people. Today's workplace must also provide employees with a sense of belonging, a sense of home. I find that a strong sense of community motivates both staff and students to be more engaged and successful in their work and studies.

We maintain an ongoing dialogue with companies in the Bonn region on the changes in the world of work. Our professors visit the companies to give lectures, and company employees come to BRSU to meet with students and to gain insight into future changes and challenges in the area of human resources development.

● **Diversity has “arrived” as an important issue in many companies, but most managers still have very similar educational and career backgrounds. What is the role of diversity in business, and what is its role in academia?**

Hartmut Ihne: We need to “live” diversity. This is a big challenge. Our students come to BRSU after graduating from high school or after their first few years on the job, and very often this is their first time working in an international environment.

We very consciously encourage both students and BRSU staff to live with diversity – to “live” diversity – and we encourage them to talk about it as well. We offer “Intercultural Communication” as a special competency area, where students learn about the cultural differences between various regions around the world. Our Department of Natural



“The freer a society is from government control, regulation and tradition, the more it requires a strong ethical framework.”

Hartmut Ihne



“Ten to fifteen years ago our employees were concerned mainly about money and security. Today the focus is more on flex-time working models, family-friendly policies, and employee health and well-being.”

Ralf Stemmer

Sciences has developed a wonderful “Out of Campus Day” which, among other things, celebrates the tremendous culinary diversity of various cultures around the world. And we continue to make progress promoting women in sciences, and are filling more and more positions with female professors. Today we are also discussing what inclusion means for BRSU, what we are already doing in this area, and how we can better integrate individuals with disabilities into university life as staff and students. In our globalised world, living with diversity is fundamental to ensuring democracy and prosperity.

Ralf Stemmer: Diversity is very important to us. Ultimately a company should be just as diverse as its customers. Although roughly 40 percent of our customers have immigrant backgrounds, only about three percent of our workforce has this background. We are not satisfied with this, which is why in areas such as trainee recruiting, for example, we are focusing our efforts on recruiting women of Turkish descent. Equal opportunity for women is also an ongoing focus area for us, especially on the issue of women in leadership roles. Our goal at Postbank is to fill one-quarter of all management positions with women by the year 2018.

◉ Why have you been unable to achieve this so far?

Ralf Stemmer: It’s interesting that women make up nearly 60 percent of our overall workforce, but less than 20 percent of upper-level managers at Postbank. Where are we losing the women and why? The answer is simple:

employment conditions are still not family-friendly enough. The family and childcare solutions mentioned earlier are one way we are addressing this problem. At the same time, we are discussing with the city ways to improve the commuting situation, i.e. ways to minimise rush-hour traffic congestion and long commutes.

◉ Bonn-Rhein-Sieg University of Applied Sciences emphasises the importance of sustainability, social responsibility and ethics. Are you setting the benchmarks for companies?

Hartmut Ihne: The freer a society is from government control, regulation and tradition, the more it needs people who are willing to take on social responsibility and have a strong ethical framework of their own to guide their actions and decision-making. That applies to everyone of course, but especially to those in leadership positions. This is something we teach and talk about with students from the beginning. All of our departments host events to explore ethical questions in the context of both academia and the working world. Company representatives also visit us to discuss topics such as whistleblowing. What do I do as an employee if I see my company acting in a way that is unethical, illegal or otherwise inappropriate? What if I know, for example, that the company is disposing of toxins illegally? Is my loyalty to the company or to society? We host a fascinating lecture series on ethics and, as part of the “Forum Verantwortung” (forum on responsibility), invite everyone in the university community and general public to take part in open discussion sessions. All of this is designed to motivate and inspire students to act in accordance with their own values, to act with integrity. But of course we also realise that the best teacher of ethics and morality is life itself.

Ralf Stemmer: Universities play a defining role. We look for university graduates with maturity, conviction and a

strong moral compass. We can live and promote certain values in the company, but integrity is something that any successful applicant has to bring with them. As a company we also have a responsibility to motivate our employees to act ethically and to take on social responsibility. Every year Postbank recognises employees who demonstrate outstanding commitment to community service and/or social causes. This motivates not only the prize winners, but also encourages colleagues to get involved as well.

● **Postbank and Bonn-Rhein-Sieg University of Applied Sciences already have a close working relationship. How do you envision the collaboration between Postbank and BRSU in the future?**

Ralf Stemmer: Bonn-Rhein-Sieg University of Applied Sciences is an important partner for us when it comes to finding and recruiting young talents. We remain interested in a close working relationship and, if anything, we would like to increase our collaboration. I myself get a lot out of the work and discussions with students. It's a chance for me to learn what makes young people "tick" and this insight is something I can then bring to the company. As an example, I am currently chairman of the advisory board for BRSU's Studienstiftung (academic foundation). Students manage the foundation assets and we consult them on how best to invest this capital. In discussions with students I was very surprised to see that many are very risk averse and opt for low-risk investment options, which of course means minimal returns. Back when I was a student, we took a much different approach! So this was new to me and I was able to pass this insight along to our people in product development.

Hartmut Ihne: We plan to further intensify our collaboration with Postbank so that we can give even more students the opportunity to conduct their internship semester or

thesis work there. We already collaborate closely with Postbank in the area of teaching. Postbank employees regularly take on teaching assignments or are invited as "resource persons" to attend individual events – to give a lecture on leadership responsibility, for example, as part of a leadership seminar. We want to introduce these kinds of formats even more into our teaching and continue to develop them further. It's an important opportunity for students to be able to meet and interact with business executives and other business people in various positions. So I'm happy to have people like Mr. Stemmer who, despite a tremendously busy schedule, still takes the time to share his experience with young people.



"Technology and a global power shift are going to drive an explosion of change over the next several years."

Hartmut Ihne

Postbank AG

Ralf Stemmer is Member of the Board of Management and Director of Labour and Resources at Postbank. At Bonn-Rhein-Sieg University of Applied Sciences he is a member of the advisory committee to the Department of Management Sciences, which helps the department align its academic curriculum

to real-world application. Stemmer also volunteers his time as chairman of the Studienstiftung advisory board. Postbank funds eight Germany Scholarships every year at BRSU. With some 22,000 employees across Germany, Postbank is also one of the largest employers in the Bonn region.

» change

» The University as part of the social change

“Our society is changing fundamentally and at a breathtaking pace. Germany is now an integral part of a larger European state with many common rules and regulations in the areas of politics, law, business and the sciences. Our economic structures are very similar to other OECD countries, and even the emerging countries have moved much closer to us. European integration will be followed by global integration, and we find ourselves today in the midst of a global power shift. The Bonn-Rhein-Sieg University of Applied Sciences is committed to understanding this process – our development strategy must adequately reflect these changes so that we remain an outstanding institution of higher education into the future. What does this change mean for us, for business and for society? This leads to even bigger questions and challenges in the areas of ethics, social responsibility and intercultural communication. We consider it one of our core responsibilities at BRSU to address these challenges and provide appropriate answers.”

BRSU President Prof. Dr. Hartmut Ihne







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Changing perspectives

Lecture series examines technology and environmental ethics

Can artificial clouds save the climate, or is intervention in the atmosphere too risky? Should an athlete with a prosthetic leg take part in competition, or is that a case of “technology doping”? And what about autonomous weapon systems? They can make life and death decisions on their own – should this be allowed? During the “Technology and Environmental Ethics” lecture series, nine guest speakers shed light on current questions from different, and often unusual, perspectives. The interdisciplinary offering from the Department of Electrical Engineering, Mechanical Engineering and Technical Journalism (EMT) contributes to one of the main goals of the university: to include sustainability themes in its course offerings.

The question of engineers’ responsibility for the social and ecological consequences of their work, as well as the question of the individual’s role was the unifying theme of the lectures given by natural scientists, philosophers, and media-makers. “This is a topic that definitely belongs in the curriculum of a technical university,” says University President Hartmut Ihne. The lecture series is a required module for all Technical Journalism majors and is an elective for engineers.

The discussion continues

“Technology and environmental ethics should also be discussed outside specialist circles, in the public realm,” adds Katharina Seuser, Professor for Journalism and Media Production. Fifty-six prospective technical journalists took on this challenge as part of an assignment. They attended the lecture series and publicised it with reports, photos, portraits, and videos in BRSU’s own online magazine technikjournal.de, and on social media sites like Facebook and Twitter. For student and reporter Lisa Meurer it was more than a technical exercise: “The lecture series inspired me to reflect on my own behaviour with respect to the environment!”

The results can be seen and heard here:

➔ www.technikjournal.de/cms/front_content.php?idart=667



Students research security gaps

European programme for better robot security

They are employed as production help in industry, or as useful household helpers – many companies already use robots, and rely on sophisticated software. But what happens when a sudden disruption occurs and the robot's functionality becomes limited, or even dangerous for its surroundings? A total of 64 international students, 20 of them from Bonn-Rhein-Sieg University of Applied Sciences, examined these questions during the Erasmus intensive programme "Safe and Secure Robots based on Open Source Software" (SaSeRos) held in Espoo, near Helsinki. The European students worked together for two weeks in interdisciplinary and multinational teams centred on the theme "Design of Safe and Reliable Technical Systems". Among them were eleven students from the Department of Electrical Engineering, Mechanical Engineering, and Technical Journalism (EMT), and nine students from the Department of Computer Science.

Intercultural competence

The students from Spain, the Netherlands, Norway, Finland and Germany analysed errors in hardware and software, and benefited from working together. In the theoretical part, topics such as robot data security, system development, and electromagnetic compatibility were explained and discussed. In the large gym of the host university, Metropolia, the participants designed robots in teams, put them together themselves with Lego pieces, and tested them on-site. The two best results received a prize. "There was this intense working atmosphere. The students dove into the tasks with energy and dedication," recalls Norbert Jung, Computer Science Professor at the BRSU and the initiator of SaSeRos. "Actually, everyone was a winner!" He sees the intensive Erasmus programme as an important



addition to the regular course of studies. Companies are looking for people who are not only strong in their specialities, but are also interculturally competent, since they increasingly work on industrial projects in international teams. "I am sure that students and companies both profit from these encounters."

The intensive course in Espoo was the last of a total of three stages of the SaSeRos project. BRSU is one of five European universities participating in the Erasmus programme. The other universities are the Helsinki University of Applied Sciences, the Sør-Trøndelag University College (HiST) in Trondheim, Norway, the Amsterdam University of Applied Sciences, and the Universitat Politècnica de València.

SaSeRos video:

➔ <http://www.youtube.com/watch?v=LW3tdUccwv0>

A participant's blog

The Finnish student Maymuna Syed looks back fondly on the Erasmus intensive course SaSeRos: New friendships, valuable experiences through exchanges with other students, and of course insights and expertise gained in the programming and security monitoring of robots based on open source software.

Her blog:

➔ <http://saseros-2013.blogspot.de/2013/04/finale-bring-it-on.html>

First-class teaching concept wins prestigious honour

The Department of Electrical Engineering, Mechanical Engineering, and Technical Journalism (EMT) qualified for the “Bestes Maschinenhaus 2013” competition sponsored by the German Engineering Federation (VDMA) with a cutting-edge teaching concept focused on motivating first-semester students, team building and guidance counselling. The department counts among the six finalists, along with the Karlsruhe Institute of Technology (winner), the Cologne University of Applied Sciences (special prize), TU Darmstadt, the University of Stuttgart, and the Offenburg University of Applied Sciences, and can now proudly call itself one of Germany’s best engineering programmes.

➔ www.youtube.com/watch?v=PEY7k6UFme4



Certified quality experts

The university and companies develop advanced training for chemical industry professionals

Whether headache medicine, pesticides, or food additives – the market introduction of a chemical product in Germany is accompanied by quality assurance procedures. These include the ‘Gute Laborpraxis’ (GLP), for instance, which is applied during the development process, and the Good Manufacturing Practice (GMP), which is used during production. Both procedures require highly-skilled analysts and unfortunately, they are in short supply.

In September 2013 Bonn-Rhein-Sieg University of Applied Sciences launched a special training programme to attract specialists to this area. Together with the Gesellschaft Deutscher Chemiker (GDCh) and the chemical and pharmaceutical companies Merck and Infracerv, BRSU developed a certified training programme (Geprüfter Qualitätsexperte GxP). So far 18 participants have taken advantage of the opportunity. Two further sessions are planned for 2014.

The certification course consists of four modules that can also be taken individually. Jürgen Pomp, Professor of Quality Assurance and Forensic Analysis at BRSU, offers the GLP intensive training course in the labs in Rheinbach. The other modules are given by the other three partners.

Inspecting lab instruments, testing measurement methods, and verifying data – that is only part of the training. “It is also about challenging assumptions in everyday practice,” says Jürgen Pomp. Is the data which is being evaluated meaningful? Is the measurement methodology any good? As Pomp points out, these are questions chemists must keep in the back of their minds to be effective at quality control.

Unique: Master’s programme in Analytical Chemistry and Quality Assurance

BRSU’s new vocational training promotes its work in the area of life-long learning while at the same time bringing attention to the new Master’s programme in Analytical Chemistry and Quality Assurance. “One of our many unique selling points,” comments Jürgen Pomp, who points out that it is the only location in Germany that offers this kind of training tuition-free.



Practical negotiation techniques in English

Simulated trade show facilitates 'learning by doing'

Learning and practicing English for business situations – with the CSR Trade Expo project, the Language Centre makes negotiation-oriented learning a reality. To this end, second-semester business students simulate trade shows at the Sankt Augustin and Rheinbach campuses.

“The goal of the simulated trade fair is to use specialised English vocabulary in real situations and to communicate effectively with business partners,” explains Regina Brautlacht, Head of the English programme. In teams of four, the students develop a new sustainability-related product or service, which they then offer at the trade fair. Brautlacht introduced the theme of sustainability into the curriculum three years ago. In addition to product development, the students are also responsible for creating logos, posters, and the trade booths.

The visitors are first-semester students and other members of the university community who have 20,000 fictional euros available to buy products. Exhibitors and fair visitors negotiate in English and improve their ability to carry out negotiations in a foreign language. As Regina Brautlacht reports, the CSR Trade Expo has become very popular. “We get lots of good feedback,” she says. “Learning by doing is very motivating for the students, since the goal of learning the language is very clear and immediately understood.” In addition to improving English skills, the faux trade fair trains creativity and business sense. The International Centre for Sustainable Development (IZNE) gives awards for the most innovative product and service ideas. The best sustainable business plan from 2013 was submitted by a group of entrepreneurs from a company called ‘fruit planet’. Fruit planet’s idea was to produce juice from fruit that is not suitable for sale in the EU due to irregularities in shape or colour.

*Plenty of activity at the trade fair stand:
Students negotiate fluently in English*



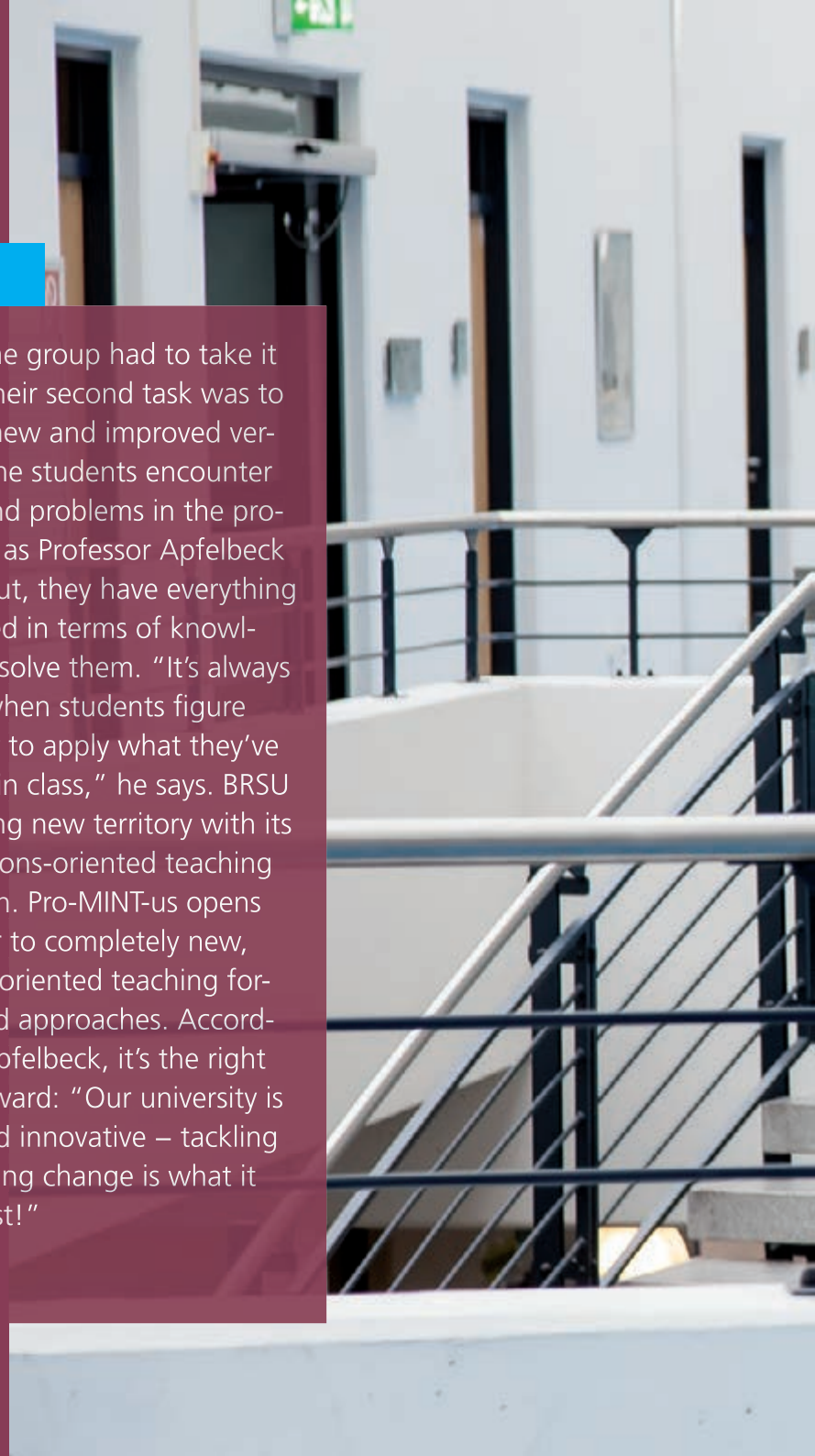
What is CSR?

Corporate Social Responsibility (CSR) is a management concept that is becoming more and more important worldwide. It is about deepening a sense of social responsibility inside companies and making it a part of the core mission. Professors at the International Centre for Sustainable Development (IZNE) and other experts expand on this during lectures on business ethics or fair trade, for instance. Working together with the IZNE, Bonn-Rhein-Sieg University of Applied Sciences integrated CSR into its business and economics curriculum in 2013.

» driving application-oriented learning

Professor Jürgen Apfelbeck does not believe in saving the best for last; his goal is to get students engaged and excited about their studies from the very get-go by letting first-semester students apply their knowledge right away in hands-on projects and experiments. This approach is part and parcel of the Pro-MINT-us project at the Bonn-Rhein-Sieg University of Applied Sciences. "Students need to understand the practical relevance of what they are learning. We can help them by conducting experiments in class and giving them interesting assignments for project week," explains Apfelbeck, who is a professor for Electrical Engineering. One such assignment involved an electric longboard he bought.

"First, the group had to take it apart. Their second task was to build a new and improved version." The students encounter errors and problems in the process but as Professor Apfelbeck points out, they have everything they need in terms of knowledge to solve them. "It's always a thrill when students figure out how to apply what they've learned in class," he says. BRSU is charting new territory with its applications-oriented teaching approach. Pro-MINT-us opens the door to completely new, student-oriented teaching formats and approaches. According to Apfelbeck, it's the right way forward: "Our university is fresh and innovative – tackling and driving change is what it does best!"





MINT fit

Teaching Quality Pact ensures optimal teaching conditions

The catchy “Komm, mach MINT!” campaign is just one of many initiatives used to promote study and careers in the areas of maths, IT/engineering, natural sciences and technology (MINT). Unfortunately, the fail rate is notably high in these fields. Bonn-Rhein-Sieg University of Applied Sciences is countering this trend with its Pro-MINT-us project, which has been slated to receive a total of 6.2 million euros in funding from the Federal Ministry of Education and Research (BMBF) Teaching Quality Pact until the year 2016.

Smaller classes, more time for explaining concepts and alternative teaching methods such as project-based learning are all ways to tackle the problem head on, of this Pro-MINT-us project coordinator Professor Marco Winzker is sure. Implementing these measures costs money – for staffing as well as for the extra training for the professors. “Funding for teaching has been around for a while now, but demand for it has increased since the launch of Pro-MINT-us and the ‘Tag der Lehre’ (Teaching Day),” says Winzker. The main focus of the Pro-MINT-us project lies on enhancing the academic experience of BRSU’s incoming students through improved academic counseling, more prep courses and e-learning opportunities. The goal is to get the university’s newest students ready to face the academic challenges that await them at BRSU.

“Students often have a hard time putting what they’ve learned in the classroom into practice,” explains Marco Winzker. “They’re not fully aware of how and where the knowledge can be applied in real life.” Pro-MINT-us has responded with new courses designed to close gaps like these. The new course offerings focus on the practical application value of the material being taught, thereby increasing the students’ motivation. This approach is by no

means limited to just the MINT courses of study at BRSU – it is put into practice by departments university-wide. Here are some examples:

Turning teaching into book project

Textbooks off the shelf are one way to learn. But how about turning what you’ve learned into your own personal textbook? Included in Professor Theo Peters’ “Business Management 101” lecture is a hands-on component involving student group work, with each group preparing texts on specific topics covered in the lecture. Their papers, which are corrected and edited, are also compiled into chapters. The end product is printed for the students to use as their own reference work.

Learning about production logistics with LEGOs

For Business Administration students, learning about production logistics can get pretty dry pretty fast. But if it’s taught in the right way, as Martin-Christian Kemnitz does, it can also be engaging and fun. His students use LEGO-cars kits with detailed components to simulate in real-time the production processes in an automobile manufacturing plant. By simulating assembly belt production step by step, students see immediately how errors impact the process as a whole and learn about the rules for quality assurance.

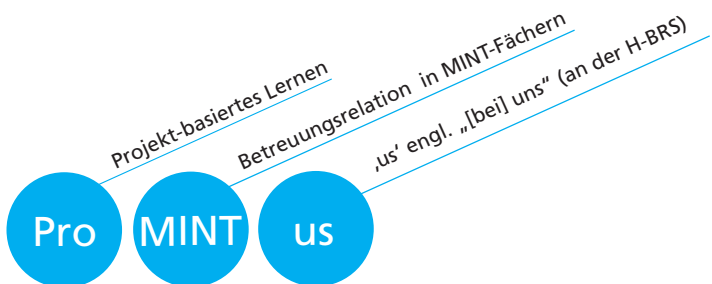
A trio: Statistics, Excel and Chemistry

Learning to take measurements and evaluating them is a core component for Chemistry students. Thanks to a new cross-modular internship coordinated by Antje Thielen, stu-

dents can now be trained in these important procedures. During the internship students practice taking measurements with micropipettes and measuring cylinders, recording the results in Excel and interpreting the outcomes. In the process, they encounter common pitfalls and explore different ways to present the data.

Making science more transparent through language

Knowing their “stuff” is for many students just half the battle – they are also expected to become versed in various scientific techniques and methodologies. And many students have difficulties when it comes to writing papers, internship summaries or lab reports. Unfortunately, their advisors do not have the time to sit down and review the students’ work individually and point out problems in language. Ulla Klee-Bender from the Department of Social Security Studies and Gabriele Menne-El Sawy and Jill Wolff from the Language Centre are addressing this issue by offering academic writing courses in both German and English. Their courses cover various forms of argumentation and the structural logic for academic writing and review finer points in grammar and spelling.



Extreme dedication

BRSU graduate Sandra Bulling reports from the havoc-wreaked Philippines

The ravaged city of Tacloban, November 2013: Sandra Bulling was the first German to report from the disaster-struck region

➔ www.theguardian.com/world/2013/dec/22/typhoon-haiyan-philippines-aid-workers-diary-of-disaster

When Typhoon Haiyan struck the Philippines in November 2013, the devastation was overwhelming and the media coverage extensive. Sandra Bulling, Media and Communications Coordinator at Care International, was the first German to report from the ground and gave interviews, one after the other, from beneath a flickering streetlight outside her hotel. She makes the evening news in Germany and her journal entries are published in The Guardian, one of the UK's most well-known daily newspapers.

Journalist Sandra Bulling learned her trade at Bonn-Rhein-Sieg University of Applied Sciences and was among the first students to graduate from the Technical Journalism programme in 2004. Nine years later Bulling's alma mater is spotlighting her dedication as a reporter. "I think it's great," she says. "I thought the journalism programme was outstanding and plan to keep connected with the university."

Semester abroad gets things rolling

Sandra Bulling was already laying down the foundation for an international career as an undergraduate. She travelled to China for her internship semester, where she worked in the Gerling Group press office. But this was just the beginning. Later she spent a total of six months in Cambodia with funding from the Konrad-Adenauer-Stiftung (KAS), first for an internship and then for her thesis, which she wrote under Professors Andreas Schümchen and Giso Deussen. Her work resulted in a practical handbook on setting up local newspapers in Cambodia. Yet another internship took Bulling to Care Deutschland; when she took the position of deputy spokeswoman, she moved to the organisation's headquarters in Geneva, Switzerland.

As a press officer for Care, Bulling was frequently sent to crisis regions – in 2007 she witnessed first-hand the devastation of Cyclone Sidr in Bangladesh, in 2010 she saw the violence of civil war in Kyrgyzstan and in 2013 she went to Jordan, where Care was aiding Syrian refugees. She has seen her fair share of human suffering. When asked how she deals with this, Bulling shows herself to be far from a hard-boiled reporter. "No matter how long I've been at it, seeing the corpses disturbs me deeply each and every time. Looking into the eyes of the survivors is not any easier, either."



“I thought the journalism programme was outstanding and plan to keep connected with the university.”

Sandra Bulling, Media and Communications Coordinator at Care International





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Observatory above the clouds

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Observatory above the clouds

Flying observatory provides new insight into the origin of the universe

SOFIA stands for Stratospheric Observatory for Infrared Astronomy. The aircraft is a joint project of the German Aerospace Center (DLR) and NASA. In 2013, BRSU Professor Bernd Klein was on board.

Christchurch, New Zealand – A converted Boeing 747SP takes off and reaches an altitude of 13 to 15 kilometres after about one hour of flight. On board is a large, high-powered infrared telescope 2.7 metres in diameter. Several researchers have gathered around the telescope and are frantically discussing their work over headsets – the only way to communicate over the tremendous background noise on board. The mood is tense; the researchers know that a single mistake could prove very costly. Their goal is to collect as much astronomical data as possible during the flight, and to gain a deeper look into the birth of the universe.

SOFIA (Stratospheric Observatory for Infrared Astronomy) is the name of the joint project between the German Aerospace Center (DLR) and NASA. SOFIA takes off up to 120 times every year with various scientific instruments

aboard. In 2013, Professor Bernd Klein from the Bonn-Rhein-Sieg University of Applied Sciences was also on board. Klein is one of the developers of the German Receiver for Astronomy at Terahertz Frequencies (GREAT) – a device that measures high frequencies in the terahertz range. “The data provides us with a wealth of information,” explains Klein. “Some of the waves we measure originate from very distant stars. Thanks to this data we’re able to learn a lot about their temperature and movement and, in turn, about their history.”

The latest instruments on board

Collecting data in a flying telescope is expensive, but it’s also necessary. Terahertz radiation headed for the earth is normally absorbed by the water vapour in the atmosphere before it reaches the Earth’s surface. SOFIA maintains an altitude at which this radiation can still be detected. Satellite telescopes would be another option, but these have a number of disadvantages. “Building a satellite requires such extensive testing that the technology is already ten years old by the time it gets launched,” explains Klein. “And as soon as the instruments are in orbit, we can no longer make any adjustments.” SOFIA, on the other hand, features the latest instruments on board – instruments which can even be modified during flight if necessary.

SOFIA generates huge amounts of data, which then take months to process. Klein expects to see several publications based on the data in 2014, but also hopes to take part in another SOFIA flight, as long as it coincides with a break between semesters. His students, after all, have priority over the stars.

More information on SOFIA can be found on the DLR website:

➔ www.dlr.de/dlr/en/desktopdefault.aspx/tabid-10465/706_%20read-264/706_read-264/#-gallery/284

Teamwork: BRSU's Bernd Klein (2nd from left) with SOFIA project colleagues



Detective work in the lab

Tracking down the causes of arthritis

In Germany alone some 800,000 people suffer from rheumatoid arthritis (RA), a chronic inflammation of the joints. Most of the afflicted are between the ages of 40 and 60, but many younger people suffer from RA as well. In fact, 15 percent are younger than 40. There is no cure for the disease so far, and science still cannot explain its cause.

Arthritis likely involves an attack on the body's own tissues by the body's own immune system. For years now, BRSU biologist Harald Illges has worked to understand what in the human body could be responsible for this malfunction. His research resembles detective work, and over time, Illges has tracked down a likely suspect: the chemical messenger histamine.

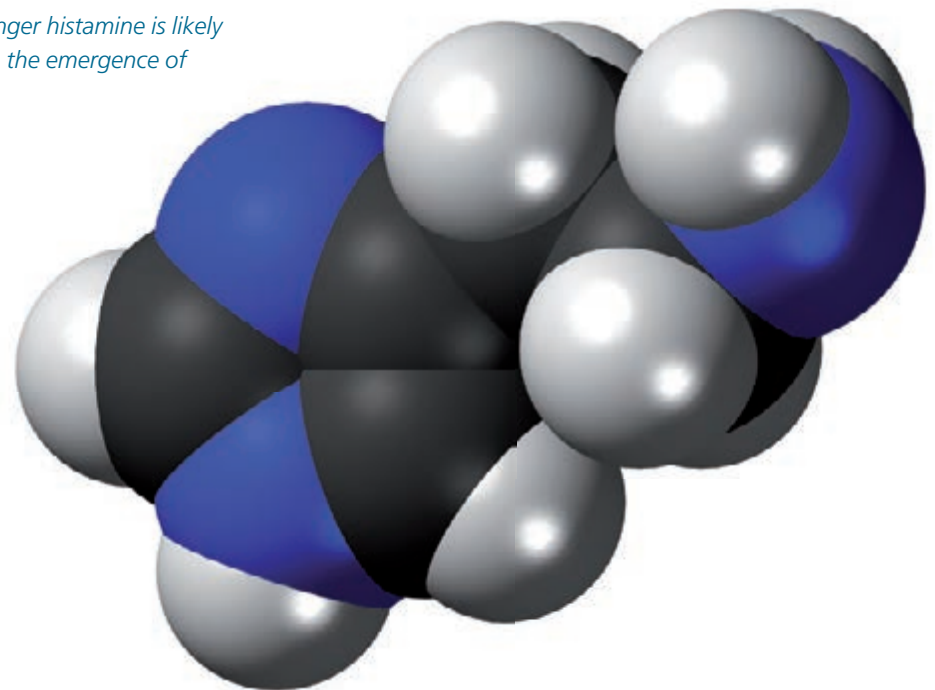
Histamine receptor is one factor

"Histamine is produced in so-called mast cells, which are important for our body's own defence," says Professor Illges. "Our research has demonstrated that arthritis apparently cannot develop without these mast cells." But because histamine binds to four different receptors in the human body, the next challenge was to find out which of these receptors plays the key role. Illges and his team blocked each of these receptors – one after the other. Sure enough, they learned that the illness did not emerge when receptor number 4 was blocked.

The researchers believe that blocking this receptor might allow for more effective treatment of reactive arthritis, a specific form of joint swelling seen with the Borrelia bacterial infection (Lyme disease), which is often transmitted by tick bites. "If a forest ranger seeks medical help for

a Borrelia infection, the histamine blocker should be able to rapidly reverse the joint swelling," says Illges. He hopes that his research results will also lead to the development of new drugs in the fight against chronic arthritis, since the therapies up until now have only been able to slow the disease's progression. A drug that could actually heal the disease would be a sensation.

A histamine molecule. The chemical messenger histamine is likely involved in the emergence of arthritis.





Introducing IMEA and TREE

Two new research institutes at BRSU

The new research institutes IMEA and TREE are part of the Department of Electrical Engineering, Mechanical Engineering and Technical Journalism (EMT).

Communicating innovations

“Communication is something that involves all departments across the university,” says Andreas Schümchen, who heads the newly established Institute for Media Research and Development (IMEA) together with Michael Krzeminski. “We are particularly interested in communicating change processes, from the perspective of both corporate communication and organisational communication, as well as from the journalistic perspective,” says Schümchen.

IMEA will consult private sector companies as well as organisations on developing complex communications strategies. “We also plan to focus more on innovation in media,” says Schümchen. One example is “Neues Erzählen im Netz”, an open and interdisciplinary online network founded by Schümchen together with his colleagues. IMEA also awards an annual prize for innovative journalism. Among the first winners was journalist Thomas Wendel in 2013 for his piece on the production of artificial meat.

More:

➔ <http://emt.h-brs.de/IMEA.html>

Sustainability in product development

Dirk Reith, formerly at the Fraunhofer Institute for Algorithms and Scientific Computing, is Managing Director of the new Institute for Technology, Renewables and Energy-efficient Engineering (TREE). TREE’s main areas of focus are resource conservation, sustainability and energy efficiency. “In particular we want to support research in the area of sustainable product development and innovation,” says Reith. “In addition we conduct our own industry-related research and development.” One current project, for example, is investigating resource-saving plastic packaging for liquids. The goal of researchers is to use new materials to significantly reduce the weight of the packaging while maintaining the same level of quality and design. In another project, TREE researchers investigated how communication and media influence public approval of wind parks, based on three wind parks currently being planned for the Düren area.

More:

➔ <http://emt.h-brs.de/TREE.html>

Revolution in bone regeneration

Professors Edda Tobiasch and Margit Schulze win the University Innovation Prize

Every year some seven million people around the world land on the operating table because of bone defects with a wide range of causes, including tumours, age-related illness, accidents and war injuries. And due to increased life expectancies around the world, the problem is going to affect even more people in the future. Moreover, regeneration methods – in the case of bone tumours, for example – have been inadequate up until now.

Artificial biomaterials are often used to treat critical-size bone defects, but these materials frequently cause side effects. “At the same time, a cure for these bone defects is not possible without the use of implants,” says BRSU biologist Edda Tobiasch. Together with her colleague Margit Schulze, Tobiasch developed new methods for improved regeneration and fewer side effects – research that earned them the BRSU Innovation Prize in 2013.

In 2012, Tobiasch and Schulze were the first researchers worldwide to demonstrate that special receptors known as “purinergic receptors” actively promote the development of stem cells in tissue cells. Purinergic receptors are among the G-protein coupled receptors, which are the target receptors for about 60 percent of all prescription drugs sold today. Tobiasch also discovered that stem cells from the dental follicles of wisdom teeth or from bone grafts provide a better basis for bone tissue replacement than

the stem cells used in the past. “Depending on the differentiation grade, the risk of developing a tumour is significantly smaller than with the use of embryonic stem cells,” says Tobiasch. An additional advantage is that the use of the body’s own stem cells greatly reduces the chance that the resulting tissue will be rejected by the body.

Using these new substances, Tobiasch and Schulze first want to stimulate bone regeneration for smaller defects in the area of dental medicine. “This can be used to stabilise implants or to regenerate jaw bone,” says Tobiasch. “As a next step we want to apply this procedure to defects where blood flow also needs to be stimulated.” The substrate containing purinergic receptors is populated with stem cells from dental follicles; this poses no problem from an ethics standpoint. Numerous drugs, including some which have already been approved, already target purinergic receptors.

Tobiasch and Schulze are now planning pre-clinical studies in compliance with Good Manufacturing Practice requirements. .



From left: University President Hartmut Ihne, the Innovation Prize winners Margit Schulze and Edda Tobiasch, and Josef Hastrich, Deputy Chairman, KSK Köln

Edda Tobiasch and Margit Schulze were the first to demonstrate that purinergic receptors actively promote the development of stem cells in tissue cells.

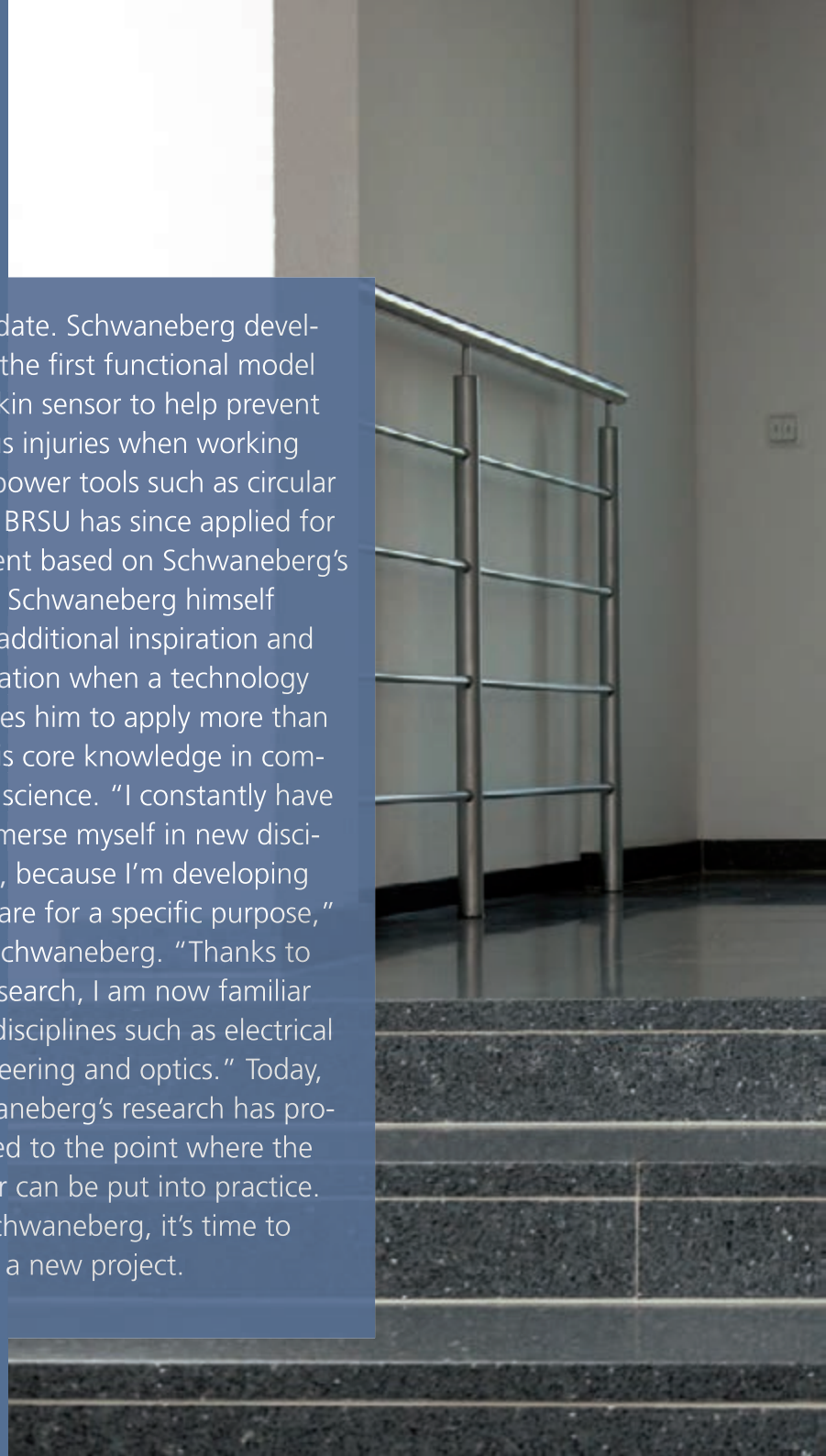
Research partners in the bone regeneration project include an oral surgery practice in Rheinbach, Matricel GmbH in Herzogenrath, and Heidelberg University.

» cross-disciplinary and hands-on

Computer Scientist Dr. Oliver Schwaneberg completed all of his academic training at Bonn-Rhein-Sieg University of Applied Sciences – from his Bachelor degree to his PhD. In September 2013, he received his doctoral degree magna cum laude in cooperation with the DFG Research Training Group “Imaging New Modalities” at the University of Siegen. “My goal is to develop new technologies for application in business and industry, and BRSU is a great place to make this happen,” says Schwaneberg. A research associate at BRSU, Schwaneberg is now using these technologies to contribute to social change.

He is currently working together with the Institute for Occupational Safety and Health (IFA) to complete a project which he began some years earlier as a Master’s

candidate. Schwaneberg developed the first functional model of a skin sensor to help prevent serious injuries when working with power tools such as circular saws. BRSU has since applied for a patent based on Schwaneberg’s work. Schwaneberg himself finds additional inspiration and motivation when a technology requires him to apply more than just his core knowledge in computer science. “I constantly have to immerse myself in new disciplines, because I’m developing software for a specific purpose,” says Schwaneberg. “Thanks to my research, I am now familiar with disciplines such as electrical engineering and optics.” Today, Schwaneberg’s research has progressed to the point where the sensor can be put into practice. For Schwaneberg, it’s time to begin a new project.





Visual contact

Broadband Internet in rural Africa and in Germany's Westerwald region

After conducting research at the Fraunhofer Institute FOKUS in Sankt Augustin, Karl Jonas joined the BRSU faculty again in 2013 as Professor of Computer Science.

Professor Jonas, you have helped drive the expansion of broadband Internet in Africa for some time now. Why is that important?

Africa lacks infrastructure, especially in its rural regions. Independent media is often non-existent, and Internet access is for many people the only window to the outside world. But connecting remote regions is very expensive. With our WiBACK concept, we have developed a way for broadband Internet data to be transmitted over great distances via wireless radio instead of through a fibre optic network. This technology is much easier to install and much more cost effective than an extensive network of cables.

How exactly does it work?

We build a chain of transmitters and receivers that starts at an existing broadband Internet connection, in a larger city for example, and extends to the rural settlement that we're trying to connect. When someone in the village goes online, data from his computer is transmitted to a router on a local radio tower. From there it travels through our chain, from router to router, until it reaches the broadband connection in the city. Each of these routers must have visual contact with the next router, so depending on the terrain, we will install a router every 5 to 20 kilometres. In an ideal case we can create a wireless connection across some 400 kilometres with just 20 routers without having to lay a single meter of glass fibre cable. This kind of WLAN

technology has been mass market for years now, which is what makes it such a cost-effective solution.



In an ideal case we can create a wireless connection across some 400 kilometres with just 20 routers without having to lay a single meter of glass fibre cable. WLAN is mass market technology, which is why it's so cost effective.

Are there any examples of successful projects so far?

The Royal Institute of Technology in Stockholm (KTH) installed a glass fibre cable along a high-tension power line from Dar es Salaam to Lake Victoria in Tanzania. From here we can now use WiBACK to connect the smaller settlements around the lake. A hospital and a United Nations office already have Internet connections thanks to this method. I hope that our students can work together with students at Dar es Salaam Institute of Technology to continue to expand this network over the next several years.

You've now expanded into Germany with your WiBACK project. Why does a place like the Westerwald region need WiBACK?

The mayor of the small town of Hirz-Maulsbach called me one day and said he had heard about the Africa project. He asked me if there was any reason we couldn't use the same technology to connect his own town. Hirz-Maulsbach is only about 40 kilometres away from Telekom headquarters in Bonn, but still does not have broadband Internet. There's a good connection at the Fraunhofer Institute in Sankt Augustin, so our plan was to create a large test network starting at the institute's Schloss Birlinghoven location. Today other towns have joined the network as well, including Hennef-Theishohn and Hennef-Blankenbach, and we've installed two towers where we're testing solar power. If the solar power option works, the radio towers will no longer depend on access to the power grid.

Fraunhofer FOKUS film on public viewing via WiBACK technology:

➔ <http://www.youtube.com/watch?v=B5avqwqCfes>

Internet connection for the village of Macha in Zambia.



A good nose for beetles

New detectors to track down harmful tree pests

It's no more than four centimetres long, has two huge antennae, and a voracious appetite. The Asian long-horned beetle has arrived in Europe and is regularly wreaking havoc on the continent's maple trees. In the fall of 2012, the city of Bonn had to cut down more than 300 maple trees that had been attacked by the beetle and hollowed out like Swiss cheese. Unfortunately there is no gentler solution when these pests strike.

Scientists are looking for ways to recognise an infestation in its earliest stages, before the beetle "goes viral". Researchers in Vienna, for example, familiarise dogs with the smell of dried larvae, pupae and beetles and then send

them out to hunt down the offenders. But varying weather conditions can have a strong affect on the beetle's characteristic odour, and the dogs then sniff in vain. To overcome this problem, researchers at Bonn-Rhein-Sieg University of Applied Sciences, under the direction of Professor Peter Kaul and doctoral candidate Ramona Makarow, are looking for a solution that works in all kinds of weather.

Beetle's scent changes with the seasons

Kaul's team from the Institute of Safety and Security Research (ISF) has experience with odour detection, especially in the area of explosives. For many years, his researchers have been developing bomb detection technologies. The beetle presents Kaul's team with just as big a challenge. "There are so many parameters that determine the odour pattern – things like temperature, wind and humidity – so the pattern changes with the seasons," says Makarow. "The type of wood or the presence of mould fungus can also have an influence."

The researchers first want to conduct a detailed analysis of the odour's chemical makeup so that they can provide the dogs with more precise odour patterns. Over the long term, Kaul and Makarow's team plans to develop detectors for the odour pattern. These could then be used by logistics companies, for example, to prevent the beetles from entering the country; the detectors would set off an alarm during transport. The Asian long-horned beetle, for example, came from China to Bonn hiding in wooden pallets. The project is being sponsored by the Ministry for Climate Protection, Environment, Agriculture, Nature Conservation and Consumer Protection of the German State of North Rhine-Westphalia.

*Pretty, but deadly for trees:
The Asian long-horned beetle*



A big-picture view

Big Data on 35 screens at the Institute of Visual Computing

Around the clock and around the world, researchers are busy gathering data on our climate – an extremely complex system with countless forces acting upon it. What is the relationship, for example, between ocean currents and temperature? What causes the currents, and what is their impact on weather and climate? Ideally, climate researchers would be able to analyse numerous data sets side by side, so as to better recognise commonalities.

Researchers in Professor André Hinkenjann's team at the Institute of Visual Computing (IVC) work with a giant video wall, which enables them to view tremendous amounts of data in high resolution – all at once. The system consists of 35 screens assembled to give the impression of a single complete image more than six meters across and three meters high. "Up until now, projectors have been used to create images of this size," says Hinkenjann. "But a projector can very quickly become inadequate, especially for applications that require high resolution." Financial support for the screen system came from the FHinvest programme, co-funded by Germany's Federal Ministry of Education and Research (BMBF) and the state of North Rhine-Westphalia, which is specifically geared towards supporting research at universities of applied sciences.

Diving into details

On the big wall, Hinkenjann and his colleagues visualise data from the German Climate Computing Centre (DKRZ) in Hamburg, which provides data sets on the ocean currents. "Our goal is to depict this data on the screens so that the user gets as big and complete a picture as possible without being totally overwhelmed by the amount of data," says Hinkenjann. The advantage of the large screen

area is that users can view everything at the same time and can also dive into the details by stepping closer to one or more individual screens.

The screens also make it possible to simulate virtual worlds with a high level of detail and visual quality. An architect, for example, can take a virtual walk through a planned house and review the interior space in "daylight" with realistic light reflections and shadows. The virtual house can be completely equipped, furnished and decorated right down to the floors, tiles and doors. "The video wall also features a tracking system to record movement," says Hinkenjann. This allows the image on the screens to adjust according to the user's line of sight. Because these applications require a tremendous amount of processing power, the system is connected to a computer cluster which generates the visualisations for the screens.

35 individual screens are assembled to give the impression of a single image more than six metres wide and three metres high.



Research and the spirit of invention

Bonn-Rhein-Sieg University of Applied Sciences funds patent applications

Better forecasts

Atmospheric researcher Stefanie Meilinger is working with new sensor technology thanks to the “FH Basis” programme – a funding instrument of the state of North-Rhine Westphalia to support newly appointed professors at universities of applied sciences. Meilinger uses the instruments to research fluctuations in solar radiation across small areas of just a few square metres. “The knowledge gained helps make more accurate solar energy output forecasts,” says Professor Meilinger. Master’s students will also be able to use the instruments for their thesis research.

A grocery retail chain recently gave its customers the option of paying with a simple fingerprint ID at the checkout. But a resourceful journalist figured out how to trick the system. He used wood glue to recreate another person’s fingerprint, which he then stuck to his own finger. Computer scientists Norbert Jung and Oliver Schwaneberg from the Bonn-Rhein-Sieg University of Applied Sciences have now developed a sensor to unequivocally detect human skin. No chance anymore for cheap imitations!

The detector is one of several patent applications that the Department of Computer Science and the Institute of Safety and Security Research (ISF) have submitted on behalf of their researchers. The most recent success was a US patent awarded in 2013. For researchers, applying for a patent is an important step towards protecting their invention. Anyone who copies the idea and uses it commercially without the permission of the patent owner can be prosecuted, and patents can be valid for up to 20 years. But the application process is very time and resource intensive. “It can take years before a patent is issued, and the application process costs several thousand euros – and that’s just for Germany,” says Udo Scheuer, director of BRSU’s Centre for Science and Technology Transfer.

“Having a patent can mean a significant competitive advantage for researchers when it comes to attracting third-party funding.”

Udo Scheuer, director of BRSU’s Centre for Science and Technology Transfer

Applying for a patent is a science in itself

A successful patent application must fulfil several criteria: the technology must be new, it must be described in minute detail, and it must also offer the prospect of commercial application. For this reason, BRSU conducts a thorough review before pursuing an invention further. If the technology is promising enough, BRSU will handle the patent application and assume the financial risk. The staff scientists are listed as inventors according to the German Employee Invention Act and receive a percentage of any future proceeds. “Having a patent can mean a significant competitive advantage for researchers when it comes to attracting third-party funding,” says Scheuer. “And patents are also reputation-boosters – nowadays, scientific publications and patents are considered more or less the same in terms of prestige.”

The skin detection technology has already resulted in another invention. Jung’s team has developed similar detectors that can recognise human hands and help protect them from the blade of a circular power saw. In a matter of milliseconds, the detector can reliably differentiate between skin and other materials such as wood or plastics. The German Social Accident Insurance (DGUV), a partner in the project, hopes to reduce the number circular saw accidents – currently about 2,000 every year in Germany alone. This technology resulted in two separate patent applications with different specifications, and both have been successfully submitted in Germany and the US.

Smart cover

Although circular power saws are usually equipped with a protective cover, serious accidents still occur on a regular basis, as many workers leave the cover open to save time. Germany's occupational insurance association for wood and metal workers (BGHM) asked researchers in Norbert Jung's team to develop safer saws.

Their response was to develop a "smart" protective cover. Sensors allow the cover to adjust to the height of a piece of wood, metal or plastic, but if it detects a hand, the protective cover stays down. The software can distinguish between human skin and work material. Researchers are currently developing the first prototype.





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An emergency team for crisis situations

The goal of BRSU's emergency and crisis management plan, issued in 2012, is to ensure the safety of the university community and to minimise damage in the event of a crisis. In developing the plan, BRSU met with local police, who helped analyse the current situation. A dedicated emergency team was put in place to decide on action measures in the event of a crisis, such as a shooting, explosion or natural disaster. The team consists of BRSU's president, chancellor, safety engineer, press officer, and representatives from facilities management.



Zertifikat seit 2007
audit familiengerechte
hochschule

A boost for diversity on campus

Funds raised for three new professorships for women

The Federal Ministry of Education and Research (BMBF) responded positively to BRSU's Equal Opportunities strategy and awarded funding for three new professorships as part of BMBF's female professor programme (Professorinnenprogramm). "Promoting women is something we take seriously here at BRSU and we're pleased that the ministry has acknowledged us in this way," says Equal Opportunities Commissioner Annegret Schnell. The goal is to promote and support female professors, particularly in the technical disciplines. The appointment process is already underway for two new positions in the engineering sciences and one position in Technical Journalism.

Family-friendly university

BRSU renewed its status as a "family-friendly" university after successfully completing the auditing process for the third time in 2013. "This time the audit focused on the compatibility of family and career/studies and whether the



Children welcome! BRSU ensures the compatibility of family, career and studies.

university has fully addressed this issue," says Schnell. The results of the audit, which involves interviews with students and university staff, were encouraging and have generated additional momentum for improvements in this area. "The audit is an important quality-management process; it's an opportunity to take a critical look at what we have achieved so far and formulate new goals for the future," says Schnell. In workshops, university and staff and students developed new action measures and target agreements with the goal of making BRSU even more family-friendly. Measures include a new outdoor playground and more family-friendly internship terms for students with children

More on the audit and certification process (in German):

➔ www.beruf-und-familie.de/index.php?c=22

Guideline against discrimination

Mutual respect, a spirit of partnership, and the absence of discrimination are all major priorities at BRSU. A working group made up of representatives from the Equal Opportunities Commission, the Staff Councils and the Student Committee (ASTA) has developed a guideline which provides clear definitions of offenses such as discrimination, workplace bullying, and the violation of personality rights. "The guideline cannot prevent discriminatory behaviour, but it can sensitise everyone in the university community to the issue," explains Schnell. Over the next several months, Schnell and others will work to increase awareness for the new guideline. In addition, the university is currently establishing an Ombudsman Commission which will serve as a source of information and counsel for affected persons.

The guideline is available for download (in German) at:

➔ http://gleichstellung.h-brs.de/gleichstellungsstellemedialPartnerschaftliches_Verhalten.pdf

Healthy employees for a high-performance university

Online survey of university staff

“Promoting health and well-being is critical to job performance, motivation, and to maintaining employee satisfaction and loyalty over the long term,” says Elke Kitzelmann, who heads BRSU’s Personnel Management and Development section. But where does promoting health begin? University administration conducted an online survey in March 2013 to help answer this question. The questionnaire was developed by the Department of Work and Organizational Psychology at the Ruhr-Universität Bochum (RUB) and adapted to the specific needs of BRSU administrators. The questionnaire addressed issues such as motivation levels, health, and overall workload for administration employees.

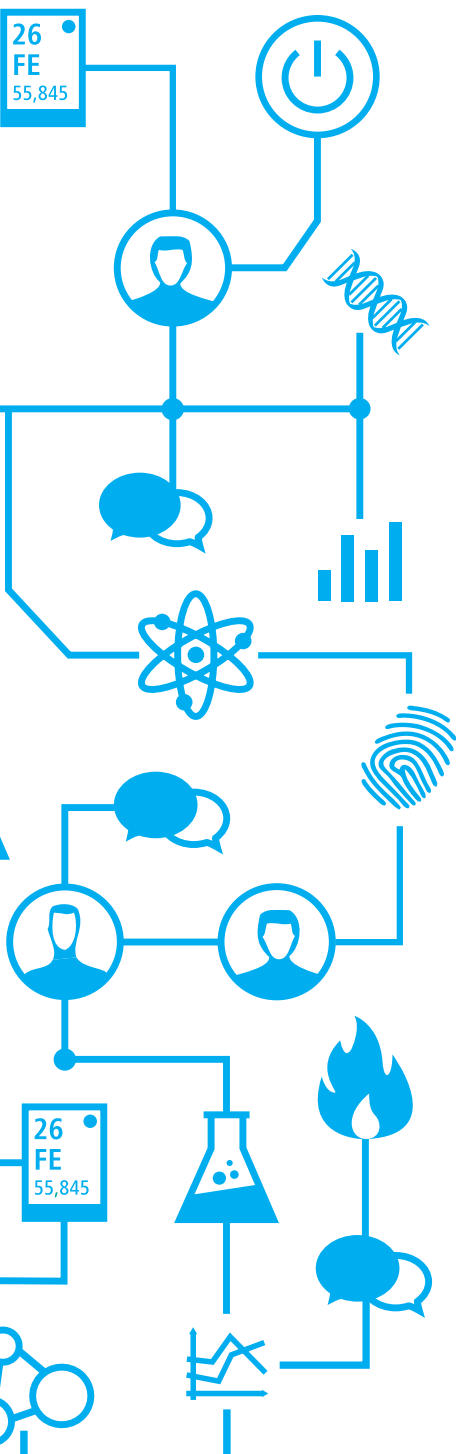
“Our assumption was that many employees are under strain, so we were pleasantly surprised by the results,” reports Kitzelmann. The survey revealed that administration employees are motivated and find their jobs varied and challenging. Respondents were less positive, however, about the university’s attention to health and health promotion. “We’ve just recently turned our attention to this area, so this was no surprise,” explains Kitzelmann.

Establishing a culture of health and well-being

Survey results were presented at several information sessions and the first action measures were discussed. The university will first focus on the issues of workload, roles and responsibilities, social support and work-life balance – all areas which are particularly important to an employee’s sense of health and well-being. The plan calls for team coaching sessions as well as intensive meetings to clarify any uncertainties regarding roles and responsibilities – and to make adjustments as necessary. The success of these and additional measures will be evaluated by a new survey in two years.

In this way, BRSU hopes to establish a positive culture of health and well-being over the long term. “The Office of the President and the sections all want to do more to support the health of their employees, and they all stand behind the project. This is important if we want to initiate change,” says Kitzelmann. Health support measures will eventually be expanded to include all university staff. “This process will also begin with an employee survey,” points out Kitzelmann.





What's your research?

Information and networking opportunities for the public

Odour sensors, facial recognition technology, and an intelligent power saw were just a few of the research projects presented by professors at BRSU's first Day of Research event. On 5 December 2013, all BRSU research groups were invited to the Sankt Augustin campus to present their current projects.

For University President Hartmut Ihne, research is one of the university's core functions. "Applications-oriented research at Germany's universities of applied sciences has seen tremendous growth and development over the last several years," says Ihne. "The Day of Research is a chance for us to present our research projects to both the university community and the general public." The Office of the President also sees the event as an opportunity to bring the various university departments together, to encourage networking, and to pave the way for new collaborative partnerships.

Research freedom

BRSU professors Edda Tobiasch and Margit Schulze are an example of international success in scientific research. Tobiasch and Schulze were recipients of the 2013 University Innovation Prize for their research on new bio-materials for bone regeneration. They were the first worldwide to demonstrate how to actively promote the development of stem cells in different tissue cells (see p. 29).

An evening podium discussion brought distinguished guests, including Oliver Trenkamp from Spiegel Online and Professor Günter-Ulrich Tolkiehn from Transparency International, together with President Hartmut Ihne for a discussion on research freedom. Participants criticised the increasing pressure on researchers to attract third-party funding to finance their work. "Research cannot be free and independent if financing is tied to external interests," said Tolkiehn. Ihne also made clear his position – that research on behalf of the private sector must comply with rules and standards for scientific research. "The university has the responsibility to convey these rules and standards, especially from an ethical point of view," said Ihne.





» movers + shakers

» far-sighted and forward-looking

Michaela Schuhmann (3rd from left) still remembers her first impression of BRSU as a place of creativity and forward-looking thinking. Today, Schuhmann, who has a PhD in Social Economics, is BRSU's Vice President for Economics and Human Resources Management, a post she took over in December 2013. She has approached her new role with tremendous enthusiasm, commitment and vision, and works very closely with the respective section heads. "We complement each

other extremely well and usually rely on each other's input and perspective to decide on the best solution and course of action," says Schuhmann. As the university's chief administrative officer, it's Schuhmann's daily challenge to keep BRSU on the right track. One of the important projects she oversees is the new construction on the Sankt Augustin and Rheinbach campuses, which will help ensure sufficient space for students, teachers and staff into the future.





In good hands

Career start in Germany

BRSU has introduced a new way to support foreign graduates who want to pursue work in the Bonn-Rhein-Sieg region or in other parts of Germany. The International Office works together with the German Federal Employment Agency's International Placement Services (ZAV) to provide consulting and job-placement services, as well job application training and coaching. "Our international graduates face specific challenges when it comes to the job search," says Maria do Carmo Massoni, who coordinates the International Welcome Center. "Application processes and bureaucratic requirements are different in every country, so our courses familiarise them with the conventions here in Germany." The 2013 winter term training has already produced positive results, with 5 out of 14 participants landing jobs in Germany.

Solid support for international PhD candidates

Foreign doctoral candidates form an important part of BRSU's research community and, thanks to the individualised support they receive, these international scholars also feel very much at home at BRSU. The university has now been able to expand its support for PhD students thanks to

additional funding through DAAD's STIBET programme for PhD students. International Office (IO) director Dr. Roland Weiß provides an example: "We were able to provide a doctoral candidate, whose scholarship funding had run out, with a grant so that she could complete her studies." In addition to individualised support measures, the IO also provides services and events for the target group as a whole. A field trip for the international PhD candidates and their advisors, for example, facilitated intercultural and interdisciplinary exchange. "For the doctoral candidates, it was an excellent opportunity to get to know the professors outside the usual working environment and to make new contacts outside their own disciplines," says Roland Weiß. Currently 17 doctoral candidates from Eastern Europe, North Africa and Asia benefit from the extensive support.

DAAD Prize for outstanding service

Brazilian Antonio Martins received the 1,000-euro DAAD Prize for outstanding academic performance and social engagement in 2013. After successfully completing his Master's degree in Biomedical Science at BRSU, Martins is now a doctoral candidate at the Helmholtz Institute for Pharmaceutical Research Saarland (HIPS). "Antonio Martins distinguished himself through excellent academic performance and the generous support he provided to international students," says Roland Weiß. While at BRSU, Martins served as a Study Buddy for several foreign students and was a constant source of support and advice, even sharing his living quarters with incoming students for several weeks at a time. "I would help house first-semester students any time," says Martins. "It really is very difficult to find an affordable apartment on your own." DAAD awards the prize every year to socially-engaged foreign students.

Library 3.0

With services such as iPad loans or "Bib-Cloud" storage space, the university library is BRSU's service hotspot. Students can access everything they need to work and study anywhere and anytime, and share it with other library users.

➔ *Bib-iPad:* www.bib.h-brs.de/bib_ipad.html

➔ *Bib-Cloud:* www.bib.h-brs.de/bib_cloud.html



International PhD candidates on a field trip with their advisors

Making the transition to university

Tips and workshops for first-semester students

Every new university student has his or her individual needs. BRSU responds with a wide range of offerings to help first-year students get oriented and provide them with the tools they need for a successful university experience. Over the years, BRSU's Language Centre has become an institution for these newcomers. Its supplementary courses are tailored to the requirements of the various departments and help students overcome any language deficiencies without losing time or falling behind in their studies.

BRSU has further expanded its Language Centre services through the university-wide programme "Pro-MINT-us", which helps first-semester students make the transition to university life (see p. 20). Two new instructors in German and English support the students in both conceptual and technical aspects of writing.

"Professors often notice in their lectures that many students, especially first-year students, still struggle with writing – whether it's academic papers, lab reports or meeting minutes. Now they can contact us for support and we can offer them individualised support tailored to their needs," says Language Centre director James Chamberlain. As an example, the Language Centre offered workshops on lab report writing in both German and English designed especially for first-semester students in the Department of Natural Sciences. The students' texts were reviewed in individual coaching sessions before they were graded by the instructors.

More on the Language Centre's services at:

➔ <http://www.spz.h-bonn-rhein-sieg.de>



High school students on campus

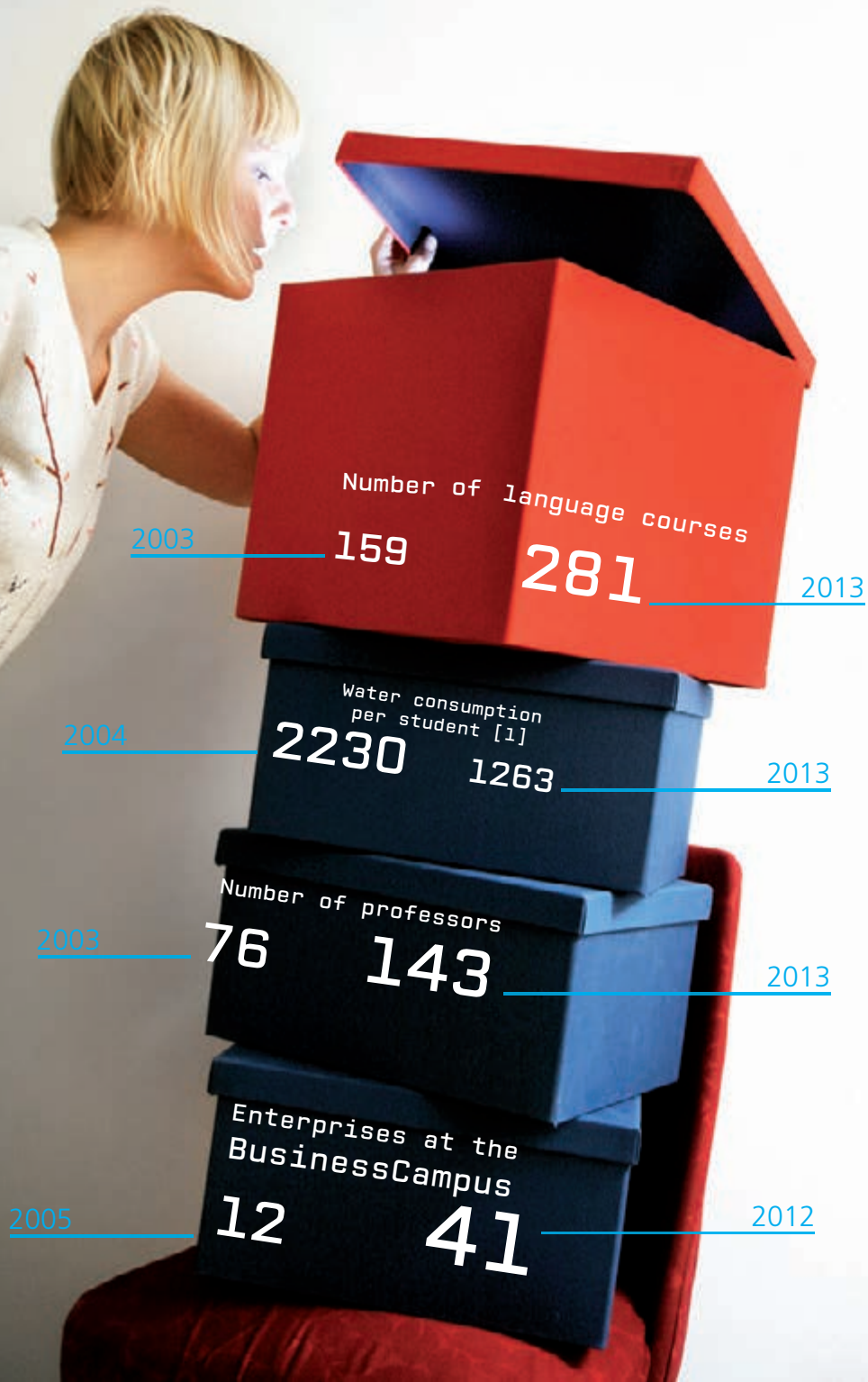
While the Language Centre is open to all university students, individual departments are also working to help their students make the transition from high school to university. The Department of Business Administration, for example, cooperates with four vocational colleges in the Bonn area – among them a commercial high school affiliated with the vocational college Siegburg, which joined the partnership in November 2013.

Thanks to this partnership, two high school students per semester can attend BRSU courses in business mathematics and statistics on a regular basis and even complete the exam. Any credits earned can then be applied to a subsequent university degree programme. "The main goal is to improve the students' academic and study skills, and we also hope to attract outstanding students to the university," says Mischa Ellenberger, who coordinates the partnerships with the vocational colleges for the Department of Business Administration. Ellenberger and his team are currently working to intensify the partnerships in an effort to realise these goals.

German for foreign students

The Language Centre provides foreign students just what they need, familiarising them with German university culture and use of the German language in an academic setting. In its course entitled "Studienbegleitendes Deutsch", international students learn tips and tricks for getting the most out of their time on campus, including how to write an email to their professor, how to participate actively in lectures/seminars and how to conduct effective office-hour meetings with professors.

“What
does
change
look
like?”





What does change
look like ...

... in the field of
Business Psychology?

“In the past, business psychologists worked primarily in personnel management or organisational development. The scope of their work has changed, however. Today their expertise is put to use in areas such as HR development and addressing issues like workplace bullying. The need for these kinds of professionals will continue to grow over time, calling for greater collaboration with other disciplines. BRSU’s Business Psychology programme, which takes an interdisciplinary approach, is a direct – and smart – response to this development.”

Maria-Christina Nimmerfroh,
Lecturer in Business Psychology,
Department of Business Administration



What does change
look like ...

... when it comes to
attitudes toward
sustainability?

“Change often happens slowly when it comes to issues of sustainability. To actually effect change in an area such as energy use, a shift in awareness has to happen first. Attitudinal change is a precondition of change. Here at Bonn-Rhein-Sieg University of Applied Sciences, our goal is to drive sustainability across many different areas. But change itself is not the goal. Being open to the new while preserving and maintaining the old is not only important – it’s key aspect of sustainability.”

Prof. Dr. Wiltrud Terlau,
Director of the International Centre
for Sustainable Development (IZNE)



What does change look like ...

... in the field of
Materials Science?

“Our job as researchers is to further develop today’s materials and enhance their properties. More and more we’ve come to rely on computer simulations as a way to decrease the number of experiments that are either potentially dangerous or resource-intensive. The simulations will only be getting better as hardware continues to improve and computing power increases. This said, there will still be a need to conduct experiments the old fashioned way.”

Prof. Dr. Dirk Reith, Managing Director from the
Institute for Technology, Renewables and
Energy-efficient Engineering (TREE), Department of
Electrical Engineering, Mechanical Engineering and
Technical Journalism (EMT)

“Computer Science remains an exciting field”

Interview with Prof. Dr. Wolfgang Heiden, Dean of the Department of Computer Science

• What kind of changes can be seen in the field of Computer Science?

Given its ‘youth’ as a science, change is happening across the entire field. The changes we are seeing within Computer Science are also affecting society as a whole – social media, for example, are changing the way we communicate with one another.

• Could you provide a few more examples?

You can also differentiate between the kinds of changes that are occurring. You have qualitative change when a new discovery is made that immediately alters the status quo. An example would be the discovery of the integrated circuit – it’s what made computers possible in the first place. More common is continuous change,

meaning constant optimisation of both software and hardware. This has led to ever smaller, better and faster computers. The third kind of change is cyclical. In the case of Computer Science, you see this in the constant shift in focus between centralised systems and individualised systems. Examples of centralised systems would be the first terminals or cloud computing, which involves data kept at a single, central location. Individualised systems, on the other hand, would be your classic PC, laptop or tablet computers.

• What kind of changes await Computer Science?

The next big step will be quantum and bio-computers. But it’s hard to say exactly when this will happen. If someone had asked me ten years ago when I thought we’d have self-driving cars, my guess would have been the second half of the 21st century. Never in the world would I have thought we’d have the first prototypes by today. Computer science remains an exciting field to be in – it’s full of surprises.

What does change look like ...

... for social security systems?

“Social security systems are being forced to develop in pace with the demographic change and shifts we are seeing in the labour market. This is the main focus of Social Security Studies. Right now in Germany we are seeing an increase in temporary employment, mini-jobs and part-time work. Occupational biographies are also changing. This can lead to security gaps, and social security needs to come up with solutions for closing them. Social insurance carriers are also

changing, moving away from the traditional administrative approach towards one involving modern service providers. This means new responsibilities. In the future, carriers will have to have a deeper understanding of the insureds’ needs, interests and lifestyles and respond accordingly.”

Vincenzo Cusumano, Lecturer for Social Security Studies, Department of Social Security Studies



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Medical tourism training

Courses for doctors, clinical staff and tourism experts

Handbook for Social Security Management

How can social security systems be financed sustainably and fairly into the future? This core question in the field of social security studies is becoming more and more complex and challenging. The Department of Social Security Studies at the BRSU's Hennef campus has responded by developing a Social Security Management Handbook. The goal of the handbook is to facilitate and strengthen collaboration between various disciplines such as economics and medicine, and to create a common foundation for the field of social security management. More than 30 different authors are contributing to the project.

Additional information is available at:

➔ www.sozialversicherungs-wissenschaft.de

The Bonn-Cologne-Düsseldorf region is attracting more and more patients from abroad seeking inpatient medical care. The metropolitan Rhineland region has over 90 clinics with more than 25,000 beds, along with top-class infrastructure. To facilitate the region's continued development in this area, Bonn-Rhein-Sieg University of Applied Sciences offers extensive opportunities for further training as part of the "Medizintourismus entlang der Rheinschiene" (medical tourism along the Rhine corridor) project funded by the EU and the state of North Rhine-Westphalia. BRSU significantly expanded its offerings in this area in 2013 with additional seminars, new brochures, and its German-Russian health forum.

Jens Juszcak is the project director at BRSU. "The training seminars are intended for everyone involved in the treatment of international patients, including both healthcare and tourism industry professionals," explains Juszcak. Along with an introductory business development course for hospitals and clinics in the area of foreign patient care, BRSU also collaborates with various partners to offer more in-depth training. Some of the focus areas here include marketing and controlling, accounting, as well as soft skills for interacting with Russian and Arab patients.

International visitors in Sankt Augustin

In September 2013, BRSU and Health Destination Rhineland hosted the fourth medical tourism industry conference in Sankt Augustin, and invited over 150 experts from all around Germany, as well as from Sweden, China, the Ukraine, Russia and the Arab Gulf States. The conference was an opportunity for medical tourism experts to discuss current market developments, research results and legal

issues.

"There is tremendous demand for what we're offering, which is why we want to continue to expand it," says Juszcak. Along with the Ajman Medical Congress (April 2014) and the third German-Russian health forum (May 2014), Juszcak is planning new seminars in areas such as law and consumer buying behaviour.

For more information:

➔ www.auslandspatienten.de



Unbiased and full of curiosity: Children's University participants keep Professor Reiner Clement on his toes during a round of Q&A

Big goals

The Rhein-Sieg region's first Children's University gets kids excited about science

It's 5 pm – time for the scheduled lecture to begin. Instead of the usual influx of BRSU students, the hall fills with a buzzing hive of some 70 children between the ages of 8 and 12. They are here to explore a big question with Professor Reiner Clement: “Can we buy happiness?”

Clement's lecture is part of the Rhein-Sieg pilot initiative “Children's University”, a joint project of the Bonn-Rhein-Sieg University of Applied Sciences and the Alanus University of Arts and Social Sciences. The project features lectures on a broad range of topics with the goal of getting children excited about scientific exploration.

“Children just soak up knowledge – and with great enthusiasm,” says University President Hartmut Ihne. “We want

to open up new worlds and perspectives for these young researchers and inspire them to set big goals for their education.” Children's University partners BRSU and Alanus University believe that their educational responsibility extends beyond their usual “audience” of university students. “We want to give children in the region the chance to explore, discover and experience how exciting the arts and sciences can be,” says Alanus University Rector Marcelo da Veiga.

Regional support

Children's University is sponsored by the Rhein-Sieg District, Germania Gebäudedienste GmbH, and the Rhein-Sieg district Kreissparkasse Foundation (Kreissparkassenstiftung). “We feel it's important to open the university's doors to people who otherwise don't have much contact with it,” explains Thomas Kemp, Managing Director of Germania Gebäudedienste, a building services company.

The Children's University concept has already proven a success, with children participating across the region, and from all different school types and educational backgrounds. “The lecture halls ‘sold out’ just a few days after sign-ups began,” says Reiner Clement, Vice President for Innovation and Regional Development at BRSU, who would like to see the Children's University pilot project develop into a permanent institution. “It's an asset not only for the region, but for me and my colleagues as well,” says Clement. “Children are unbiased, open and uninhibited. They bring a fresh perspective and ask questions that we adults might not necessarily think of ourselves.”

Can we buy happiness?

The first Children's University lecture event at Bonn-Rhein-Sieg University of Applied Sciences was all about happiness: What is this thing we call happiness? Can it be bought? How can an individual contribute to his or her own happiness? These were among the big questions considered by Professor Reiner Clement and his large audience of kids. “The children were very open and forthcoming,” reported Clement. The group concluded that money does not make us happy over the long term, and that family, friends and good health are more important.

How happy are people in Germany?

➔ www.gluecksatlas.de



Innovation hotspot

BusinessCampus supports start-ups

The BusinessCampus Rhein-Sieg includes 1,800 square metres of office space as well as laboratories and conference rooms. At its three locations, the BusinessCampus currently supports 40 young companies from a wide range of industries including IT, consulting and marketing. One of the companies is SIDACT GmbH. From its offices on the BRSU campus in Sankt Augustin, SIDACT distributes its products to markets throughout the world, including China, India and Mexico. For company founder Clemens-August Thole, the BusinessCampus offers a long list of advantages. “The proximity to the students, the good infrastructure and the flexible leasing terms are particularly important,” says Thole.

All-around support and guidance

The BusinessCampus is operated by a limited liability company (GmbH) backed by three partners: Bonn-Rhein-Sieg University of Applied Sciences, the regional bank Kreissparkasse Köln, as well as the Rhein-Sieg District trade and industry promotion office. With the BusinessCampus, these partners provide entrepreneurs and start-up companies with affordable office space as well as an extensive range of consulting and support services. “We consult these entrepreneurs in all phases – developing their idea, writing the business plan, even preparing for trade fairs,” says BRSU’s Udo Scheuer, one of the managing directors of BusinessCampus GmbH.

The BusinessCampus has helped launch many new companies over the last few years. The entrepreneurs are usually affiliated with BRSU, and about ten percent come from

outside research institutions or the private sector. “These are often long-time research partners who strike out on their own and want to take advantage of the BusinessCampus,” says Scheuer. This was also how SIDACT got its start. Before founding the company, Thole and his team worked at the Fraunhofer Institute for Algorithms and Scientific Computing SCAI in Sankt Augustin and had collaborated with the BRSU on research projects.

From research into business

Today, SIDACT’s core business is based on the team’s research at the Fraunhofer Institute. Thole’s team developed a procedure for compressing the huge amounts of data generated by computer simulations, such as a computer-simulated crash test. “We started to see a tremendous amount of interest from the private sector, and our team at Fraunhofer was spending more and more time consulting companies and servicing our software,” recalls Thole, who is also SIDACT’s managing director. “The research aspect was no longer our main focus, and the time was ripe for a spin off.”

SIDACT clearly has growth potential. Its current focus is on the automotive industry, but it plans to approach other industries such as aviation, oil and weather. SIDACT already employs several BRSU students as support staff. These students can also pursue internships or continue their work at SIDACT in the form of a Bachelor or Master’s thesis. Scheuer is optimistic about the company’s future. “SIDACT is an exciting example of how mathematical research can result in software that is in demand around the world,” he says.

Science Campus

The on-campus presence of companies such as SIDACT has several advantages for BRSU as well. They generate new research ideas, research projects, and provide students with valuable employment opportunities. But the BusinessCampus also has a strategic component for BRSU. "Our goal is to establish a Science Campus which is home to high-end companies, innovative spin-offs and centres for research and development – all of whom have productive relationships with BRSU and the region," says University President Hartmut Ihne. This helps establish BRSU as the place in the region, where science and industry come together and promote innovation.

More on the BusinessCampus at:

➔ <http://www.bc-rs.de>

More on SIDACT at:

➔ <http://www.sidact.com>

What does the BusinessCampus offer?

The BusinessCampus Rhein-Sieg consults entrepreneurs in all phases of building a business and provides office space and the necessary infrastructure. Along with its consulting services, the BusinessCampus offers entrepreneurs the chance to participate in start-up competitions and apply for start-up funding awards. Interested parties should contact Managing Director Udo Scheuer directly at: + 49 2241 3972101, scheuer@bc-rs.de

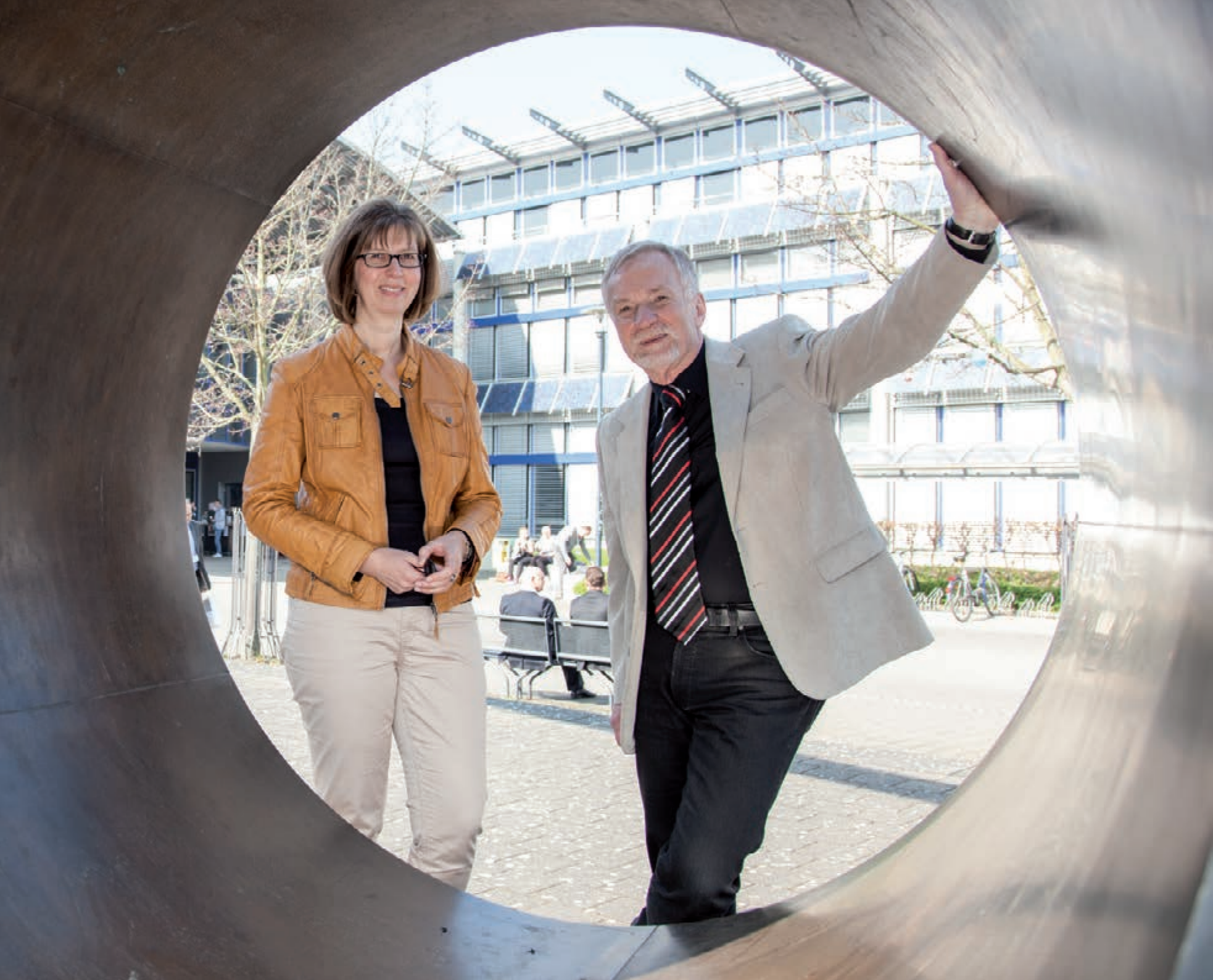


» unique and attractive

Hans Stender, Chancellor of Bonn-Rhein-Sieg University of Applied Sciences until April 2013, was a key figure in the university's development. "When I first heard that a new university of applied sciences was being established, I knew right away I had to join the effort," recalls Stender. On his first days on the job, Stender worked at a converted kitchen table with a PC he brought himself. For his first meetings, he served refreshments in cups he bought himself. "To have played such a major role in the start-up phase is something I'll never forget – it was very rewarding and a lot of fun!" says Stender. Together with his pioneering colleagues, Stender tried hard to distinguish BRSU from other universities of applied sciences (Fachhochschulen). At the time of BRSU's founding, most Fachhochschulen were focused

primarily on engineering sciences, business and the social sciences. BRSU clearly distinguished itself with course offerings in fields like technical journalism and biology, which until then were taught only at full-fledged universities. "To an extent we were looking to counter the traditional image of a Fachhochschule," says Stender. "And looking back I can say that BRSU has done a terrific job of this so far. Today it has a very unique and creative profile."

Stender's interim successor was Angela Fischer, who heads BRSU's Personnel Management and Legal Affairs section. On 1 December 2013, Fischer handed over to Dr. Michaela Schuhmann, who, as Vice President for Economics and Human Resources Management, is now BRSU's chief administrative officer.



Students with strong backing

“Deutschlandstipendium” attractive for both sponsors and students



Thanks to his Germany Scholarship, Svetlin Tontchev can now turn his full attention to his studies.

Talent combined with drive and commitment is something that employers are always looking for, and something that more and more companies are willing to invest in early. One example is the “Deutschlandstipendium” or Germany Scholarship, which is funded by Germany’s business community together with matching support from the federal government. During the 2013/14 winter semester, 71 students at the Bonn-Rhein-Sieg University of Applied Sciences were able to find a Germany Scholarship sponsor for a period of at least 12 months.

Each Germany Scholarship is sponsored by a business, private individual or foundation, which supports a young talent with a pledge of 150 euros per month; these funds are then matched by the Federal Ministry of Education and Research (BMBF). At BRSU, the sponsors have a voice in determining which departments the scholarship holders come from. “For many companies, the Germany Scholarship fits into their recruiting strategy,” says Fidegnon Witte, director of fundraising at BRSU. “It’s a way for the sponsors to demonstrate their sense of social responsibility, but the scholarships are also an effective medium for their HR marketing.” For the scholarship holders, the financial support often enables the next step in their development.

Lilian Degen (25),
3rd semester, Electrical Engineering:

“The scholarship took a huge weight off my shoulders. I was suddenly able to relax and perform better on exams, and my GPA improved significantly. It’s also exciting to be part of the Germany Scholarship network. My sponsor Eaton wants to offer seminars to scholarship holders, and

we get to meet the people in their HR department. And who knows, maybe Eaton will even hire me.”

Svetlin Tontchev (23),
4th semester, Business Administration:

“Before the scholarship I worked part-time in marketing along with my studies, which demanded a tremendous amount of flexibility. And quite often the really attractive work assignments would conflict with my class schedule. Thanks to the Germany Scholarship, I now have the financial freedom to concentrate 100% on my studies. My original goal was to go into hospital management after graduation. But the contact to my sponsor Aldi has made me to reconsider things a bit, so I’m keeping all doors open.”

➔ <http://www.deutschland-stipendium.de/>



Climate-friendly cement

Industry shows great interest in the AktivPuzzolan project

How can CO₂ emissions be reduced in cement manufacturing and processing? It's a question of critical importance to the construction industry, since more CO₂ emissions means higher costs. Steffen Witzleben, Professor of Chemistry in the Department of Natural Sciences, has been grappling with this challenge for several years now. In 2013 he began a new chapter in his research with the AktivPuzzolan project, which involves the addition of special materials known as pozzolans.

The project is sponsored by the Federal Ministry of Education and Research (BMBF) with additional support from various partners in the region including the University of Siegen, Henkel Corporation's Adhesive Technologies division and construction materials manufacturers Wittekind and CIRKEL. Wittekind, for example, provides the cement required for the experiments. "The partners are very inter-

ested in the results and take an active part in the discussions," says Witzleben.

When does the cement harden?

Researchers are focused on the addition of pozzolans – rocks made up of different materials, including limestone and clay. Pozzolans have been a cement additive for some time, but they cause the cement to harden more slowly. By altering the pozzolans and adding additional materials called templates, Witzleben and his team want to control and accelerate the crystallisation process, which is what causes the cement to harden. "Our goal is to optimise cement so that companies produce significantly less CO₂ during cement manufacturing and processing," explains Witzleben.

The AktivPuzzolan research project will run until 2017. It remains to be seen how much CO₂ can be saved with AktivPuzzolan. One thing is clear for the researchers: They need to keep the price of the new cement as low as possible. "Our goal is to maintain current price levels, since the market is usually tough on the more expensive products," says Witzleben.

Renewable building materials

Resource scarcity is one of the big challenges of the future, which is why Professor Steffen Witzleben and his team in the Department of Natural Sciences are researching renewable raw materials for the construction industry. As part of the "BioBau" project, the research team focuses on the polymer lignin found in wood. "Currently only about two percent of the world's lignin supply is being used as a raw material," says Witzleben. "The rest gets thrown away." Witzleben wants to use lignin to manufacture materials resembling plastics which could be used for products such as insulation.





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For social protection worldwide

Working group provides a forum for international researchers

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Science connects

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A meeting of like minds

RISE scholarship holders conduct research in Rheinbach

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Trilateral cooperation with universities in Ghana and Kenya

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For social protection worldwide

Working group provides a forum for international researchers

What is EADI?

The European Association of Development Research and Training Institutes is Europe's leading network for development research and training. Founded in 1975, EADI is an international non-governmental organisation that hosts events and provides facilities for scientific dialogue and exchange. The General Conference is EADI's largest event and is held every three years. The next General Conference entitled "Responsible Development in a Polycentric World - Inequality, Citizenship and the Middle Classes" will take place in Bonn, Germany from 23 - 26 June 2014.

➔ www.eadi.org

Katja Bender is Professor for Economics at BRSU's International Centre for Sustainable Development (IZNE). Bender founded the working group "Social Protection" in 2013 together with Professor Esther Schüring and representatives from the German Development Institute (DIE) and Ruhr-Universität Bochum as part of the European Association of Development Research and Training Institutes (EADI).

• What is the focus of the working group?

Social protection is becoming more and more important worldwide. It includes protection against existential risks such as illness and unemployment, as well as other safeguards for the poor and disabled. Our working group provides international researchers with a forum for dialogue on social protection – a place where they can present research results and share experiences from their work in both developing and high-income countries. We have three main areas of focus: First, what is the impact of social protection measures? Second, how should social protection measures be designed and implemented given the special circumstances in developing countries and the specific requirements of individual countries? And third, what role does a country's political economy play in developing and establishing social protection?



• The next EADI General Conference will take place in Bonn in June 2014. What will be your role in the conference?

International researchers and representatives from the field of development policy will be presenting their work. Participants will include experts from Europe, Asia and Africa, but also representative from the World Bank and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). The topics will be as diverse as the presenters themselves – social protection of indigenous women in India, national health insurance in Ghana, and the reduction of poverty and inequality in Indonesia to name a few. It's sure to be an interesting combination of lectures and discussions.

• What initiatives is the "Social Protection" working group planning?

We will continue to organise meetings and collaborative research projects. In addition, Bonn-Rhein-Sieg University of Applied Sciences will be offering the international Master's degree programme "Social Protection" as of the 2014/15 winter semester. This programme will provide young professionals from around the world with interdisciplinary training and the necessary methodological skills to analyse the social protection needs of specific countries. There are not many programmes of this kind around the world, so it's a way for BRSU to stand out. And it is also a way to make an active contribution to social protection around the world.

Science connects

NRW-Near East scholarship programme

One of Professor Edda Tobiasch's personal goals is to use science and scientific research as a vehicle for dispelling prejudice and bringing disparate cultures together. The research team in her stem cell laboratory at BRSU, for example, is highly multi-national. Tobiasch, a former laboratory head at Harvard University, has participated in the NRW-Near East scholarship programme since 2009. The programme gives qualified students from Israel, Palestine and Jordan the opportunity to take part in a research project at a university in North Rhine-Westphalia (NRW) for a period of three months. The stay at a German institution is designed to familiarise the scholarship holders with Germany's research and higher education landscape and pave the way for further collaboration in the future.

Tobiasch's lab is a favourite among programme applicants. "Every year we receive more applicants than we can accept and the quality of the applicants is high, so it's always a difficult decision to make," says Tobiasch, who is a professor of Biology at BRSU. In 2013, Tobiasch selected Palestinian Yasmin Issa, who had an impressive background in medical biotechnology. Issa spent her three months in Rheinbach under the direction of one of Tobiasch's doctoral students exploring the use of stem cells and bio materials for the purpose of bone regeneration in dental medicine. The work paid off; the project led by Tobiasch and colleague Margit Schulze was named winner of the 5,000-euro University Innovation Prize.

Scientific and intercultural exchange

"Once a week everyone in the lab meets with Professor Tobiasch to talk about their ongoing experiments and to plan additional work. The feedback helped me improve my scientific writing and my research techniques," recalls Yasmin Issa. Along with their research, the Middle Eastern guests also had a chance to learn about NRW culture, including boat rides on the Rhine, a visit to the open-air museum in Kommern, and a meeting of all 25 scholarship holders in Düsseldorf. "We really get a lot out of our stay in NRW – both scientifically and culturally – and at the same time our hosts experience first-hand the potential of students from the Middle East," says Issa. It's a fruitful exchange, and a tradition that will continue at BRSU: Professor Tobiasch will participate in the programme again in 2014.



Cooperation with Wartburg College

The partnership with Wartburg College in Iowa, USA is now official. BRSU and Wartburg signed a partnership agreement last summer, which will include a range of initiatives such as exchange semesters, summer schools and collaborative media projects. Students from both schools will visit each other for 10-day workshop sessions to collaborate on an online magazine and television programme. The partner schools complement each other well with BRSU's Technical Journalism specialists and Wartburg College's expertise in the area of TV production.

Global university

ERASMUS for university staff

Each year some 250,000 students go abroad as part of the EU's Erasmus programme. University staff members can also take part in a wide range of Erasmus training programmes. Claudia Luppertz and Claudia Holbach, staff scientists in the Department of Electrical Engineering, Mechanical Engineering and Technical Journalism (EMT), spent one week at the University of Valencia.

◉ What did you do in Valencia?

We took part in an IT course together with university employees from all around Europe. It was actually quite demanding – everything in English and taught at a pretty high level.

◉ How would you describe the difference between the two universities?

Student life is very different. The University of Valencia has over 45,000 students, so it's much bigger. Another difference is that many people in the university community there hold down several jobs in order to make ends meet.

◉ What was your favourite part of the experience?

Being able to communicate with the locals in their language is simply a great feeling. The university's International Office also hosted several events, including a tour of the city, Salsa dance lessons and a Tapas cooking course.

There are several ways for BRSU staff to gain international experience, including job-shadowing, conferences and workshops. And there are several funding opportunities as well:

➔ www.h-brs.de/

Mobilität+von+Beschäftigten+

BRSU commits to the “Code of Conduct for German Higher Education Projects Abroad”

The Code of Conduct initiated by the German Rectors' Conference (HRK) and the German Academic Exchange Service (DAAD) defines quality criteria for German higher education projects abroad. By committing to the Code of Conduct, Bonn-Rhein-Sieg University of Applied Sciences agrees to uphold certain standards and guidelines, including accredited dual degree programmes and transparent admissions policies, to ensure that German academic quality is maintained abroad. BRSU is a partner in the German Jordanian University (GJU) and the Vietnamese-German University (VGU) and offers dual degree programmes with universities in Argentina, Canada, the UK and Italy, among other countries.

BRSU selected for HRK audit “Internationalisation of Universities”

External reviewers from the German Rectors' Conference (HRK) are currently conducting a year-long review of BRSU's international competencies. Are foreign students well integrated into the community and do they receive the necessary support? Is there an exchange programme for instructors? Is BRSU's administrative staff sufficiently trained in the area of intercultural competencies? International Office director Dr. Roland Weiß is optimistic about the evaluation results. “We are already very well positioned in this area and hope to receive additional tips from the experts on how to best optimise our international offerings,” says Weiß. The reviewers will provide their feedback after concluding the audit process in November 2014. BRSU will then receive a certificate confirming its participation in the audit process.

A meeting of like minds

RISE scholarship holders conduct research in Rheinbach

The very popular Research Internships in Science and Engineering (RISE) programme, sponsored by the DAAD, provide Bachelor students in the US, Canada and UK with the chance to spend a summer in Germany conducting research. Yu Zhang and Constanze Kaebisch – both doctoral candidates in Professor Edda Tobiasch's laboratory for Genetic Engineering and Cell Culture – received over 40 RISE applications from outstanding students hoping to take part in their research projects. In the end they chose Americans Kelly Liu and Jillian K. Gorski, who then spent three months in Rheinbach.

Stem cell research by day, Beethoven by night

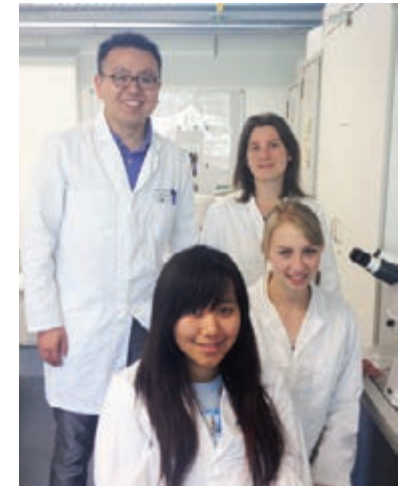
"I always wanted to go to Germany, so when I heard that I could do research in Germany on a RISE scholarship, I applied right away. BRSU's scientific and research profile was a perfect match, since I am very interested in stem cell research and its many applications in the field of regenerative medicine. Together with my mentor Yu Zhang, I investigated the effect of the p53 tumour suppressor protein on the differentiation of human mesenchymal stem cells. In my free time I was able to take in Bonn's cultural scene and today I'm a big Beethoven fan!"

Kelly Liu studies Biomedical Engineering at Columbia University in New York City.

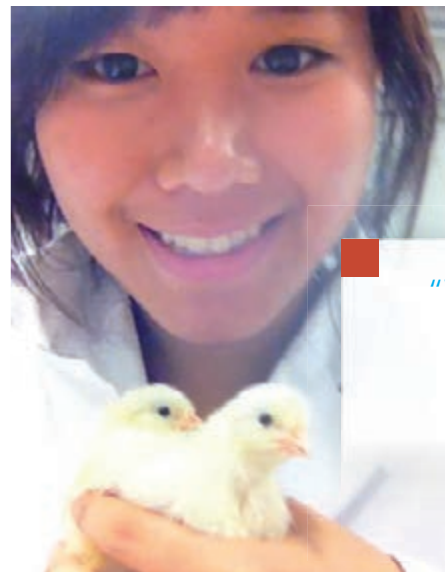
Small lab, intimate atmosphere

"In the lab, Constanze taught me new stem cell differentiation techniques, and I'll be able to apply this knowledge in research projects back home. Rheinbach is a perfect work environment. Everything here is small and familiar – and I'm surrounded by fantastic people who share my love for science. My stay in Germany was my first time in Europe and definitely not my last!"

Jillian K. Gorski studies Bioengineering at the University of Pittsburgh.



Scholarship holders Kelly Liu and Jillian K. Gorski (front, from left) with their mentors Yu Zhang and Constanze Kaebisch (back, from left).



"We raised these chicks from two eggs and then brought them to a farm."

Kelly Liu

» movers + shakers

» versatile and dependable

Germans are serial sausage-eaters and Koreans have no sense of humour – today Study Buddies Joyoub Kim and Luisa Schimainski laugh at the stereotypes they used to rely on. Schimainski, who studies Technical Journalism at Bonn-Rhein-Sieg University of Applied Sciences, spent a semester abroad in Daegu, South Korea. “Korea is incredibly diverse,” she says. “It’s one of the world’s technology giants and, at the same time, old traditions are an integral part of everyday life.” Today Schimainski has a newfound enthusiasm for Asian culture and a great appreciation for the support she received from her hosts in South

Korea. She’s found a way to return the favour as a Study Buddy for exchange student Joyoub Kim, who is studying Business Administration at BRSU for one semester. Kim is very thankful for the support from his Study Buddy. “Luisa organised a room for me in the dorm, helped me open a bank account and introduced me to her friends,” says Kim. “Especially in those first few weeks, I could not have done it without her.” Still, the two do not yet agree on whether to use a knife or scissors to cut a pizza. “It’s those small differences in the everyday life that make the cultural exchange interesting,” says Kim with a smile.



Contagious enthusiasm

Internship semester abroad

Companies look for specialists and managers that can not only work well in different markets, but also in different cultures. Bonn-Rhein-Sieg University of Applied Sciences fills this need with its international internship programme. "A working semester abroad gives the students insight into a foreign culture in both the business and everyday environment. The intercultural competency gained is a big benefit for our graduates and equally attractive for future employers," says University President Hartmut Ihne. BRSU's long term goal is to provide half of its graduates with international experience during their degree programmes. The best ambassadors for the internship abroad are the Bachelor students themselves. They immerse themselves in a foreign culture, take on significant responsibility, and return to Germany inspired.

Valentin Schell loves the fast pace in New York.



This is what I want to do!

"Deutsche Telekom Inc. is always looking for promising start-ups to invest in. I worked for the head of the Innovation and Technology Scouting department and travelled up and down the East Coast. Small companies presented their business models to me and it was my job to either recommend them or not. I was given a lot of responsibility during my internship and it became clear to me that this is what I want to do with my career! The people in New York are so full of new ideas; their enthusiasm is contagious and it's rubbed off on me!"

Valentin Schell studies Business Administration and completed his internship semester in summer 2013 at Deutsche Telekom Inc. in New York.

Team spirit

"In the Procurement Trucks and Buses department at Mercedes Benz in Istanbul I played an active role in the negotiation meetings from the very beginning and was able to learn about the highly complex procurement processes. For a short time I even took over for one of the buyers and conducted negotiations all by myself. My supervisors were very satisfied with my work. I was able to procure a product at a significantly lower price than expected. In general there was a very strong team spirit between employees and supervisors and we often went out together in the evenings after work. Thanks to my colleagues, I now know Istanbul from the inside, i.e. off the beaten path of tourism."

Burhan Kolbasi spent six months at Mercedes Benz Türk A.S. in Istanbul. He studies Business Administration.



Burhan Kolbasi immerses himself in business life in Istanbul.



Valentin Kett is awed by the warmth and hospitality of the people he met in India.

New: Institute for International Studies

The new BRSU Institute for International Studies offers hands-on, internationally-oriented academic and professional training programmes. Foreign students, BRSU's various departments or even private sector companies can take advantage of the institute's diverse offerings including language courses, field trips and intercultural training courses. The institute gives BRSU a competitive edge in the area of international education and training.

A BMW as company car

"My internship at BMW of North America was a chance for me to learn what it's like to work in marketing and communications for a large corporation. My responsibilities included scheduling, support for photo and film shootings, and adapting German advertising brochures to suit the American market. I was very busy, but thanks to the great work atmosphere it never got stressful. Getting a 3-series BMW company car as an intern was the cherry on top. Looking back, my internship in New Jersey paid off double: I not only gained professional and international experience, but it was a great way to learn business English without a lot of effort."

Laura Engels studies Business Administration at BRSU. Her internship was in BMW of North America's Marketing and Communications department in New Jersey, USA.

Logistics as a focus

"It's hard to imagine a country more rich in contrast than India – both geographically and socially. I was able to travel a lot on the weekends and got a first-hand look at the country's tremendous diversity. The people were incredibly friendly, and I was deeply impressed with their sense of hospitality. At Bosch and everywhere else I went, I was received warmly. I was less able to appreciate the Indians' sense of time. Meetings, for example, regularly take place a few hours later than planned. During my internship I focused primarily on logistics, conducting warehouse optimisation, for example, or making sure that two half-empty containers don't get shipped from Bangalore to Hamburg. Now back in Germany I've chosen logistics as my area of concentration."

Valentin Kett studies Business Administration at BRSU. His internship semester at Bosch took him to Bangalore, India, where he worked from August 2012 to February 2013.

Welcome to Ghana

First summer school in Cape Coast

Over the course of three weeks, eleven students from Bonn-Rhein-Sieg University of Applied Sciences experienced their very own adventure in Ghana, including private lectures, visits to local companies, and Africa's breathtaking natural scenery. The Summer School was initiated by Eileen Küpper, director for intercultural communication at the Language Centre in Rheinbach. Küpper, who hails from Ireland, proved her improvisational talent on the ground in Ghana, where teacher strikes forced her to organise private lectures with Ghanaian professors. Instead of sitting with 800 students in the lecture hall, the German students and their Study Buddies met in small seminar groups. "The benefit was that the instructors could devote their attention to the students' specific interests and questions," explains Küpper. "This would not have been possible in a regular lecture hall," she continues. The students received certificates for their participation in the Summer School and will receive elective credit from BRSU.

After completing their project work, the Summer School participants – all of whom study either Business Administration or Business Psychology at BRSU – paid visits to Ghana's Goethe-Institut and small Ghanaian companies. Leticia Osafo-Addo, founder of Samba Foods, impressed the students with the simplicity of her business idea. She took a typical Ghanaian recipe for paprika sauce and figured out how to mass produce it and get it on to the supermarket shelves. Osafo-Addo's example demonstrated the importance of a good idea and strong market knowledge to entrepreneurial success.

Unique natural beauty and Ghanaian hospitality

Shimmering green national parks, roaring waterfalls, swinging bridges suspended high in the air – with Ghana's natural beauty providing the awe-inspiring backdrop, the locals enchanted the German guests with memorable cultural and culinary experiences. In the home village of project coordinator Phaniel Wunu, the villagers greeted the students with church songs and typical Ghanaian hospitality. "Ghana truly inspired the students with its people and natural beauty, and made a lasting impression. There's no question that there will be a further Summer School in Cape Coast in 2014," says Küpper with a satisfied smile.

Additional information on the Summer School in Ghana, including application form, can be found at:

➔ www.wir.h-brs.de/summer_school_ghana.html



Kick-off in Nairobi

Trilateral cooperation with universities in Ghana and Kenya

Bonn-Rhein-Sieg University of Applied Sciences has been working closely with the University of Cape Coast in Ghana since 2009 in form of a partnership between BRSU's International Centre for Sustainable Development (IZNE) and the University of Cape Coast's Institute for Development Studies (IDS). These partners will now be joined by a third partner, the University of Nairobi's Institute for Development Studies, which is the world's oldest institute of this kind. IZNE's founding director Professor Wiltrud Terlau travelled to East Africa in November 2013 together with BRSU colleagues and University of Cape Coast representatives to officially launch the trilateral cooperation.

Sponsored by the DAAD, the tour began in Nairobi with a visit to the university and a meeting with top-level university administrators, who arranged for a special personal welcome for the eight guests from Germany and Ghana. "This is rather unusual for such a new cooperation and underscores their tremendous interest in joining the partnership," says Terlau. The university trio has ambitious goals. Professors from all three countries met in working groups and identified focus areas such as sustainable technologies, responsible business, sustainable food production, social protection, and business start-ups, and planned their contributions to the international EADI General Conference scheduled for 23 – 26 June 2014 in Bonn (see p. 66).

Working from the inside out

In March 2014 it was time for the partners in Ghana and Kenya to visit Sankt Augustin. The parties signed a trilateral memorandum of understanding and joint applications for funding, thereby strengthening the foundation for further collaborative projects in teaching and research.



Wiltrud Terlau (centre) leads the German and Ghanaian delegation to Nairobi

These projects will focus primarily on today's challenges in Africa and address questions such as: Which technologies can be used to improve rural infrastructures and which of these can be financed, operated and maintained by the local population? How can food production be made more sustainable along the food value chain? How can a country's senior citizens be cared for when the traditional systems of elderly care no longer function? For Terlau, working "from the inside out" is key to overcoming these challenges. "African university curricula that emphasise practical relevance and a focus on sustainable development put African graduates in a strong position to share their knowledge with others and to support their own country's development. They become tomorrow's multipliers," says Terlau.

Creative minds in Ghana

In October 2013 scholars from Bonn-Rhein-Sieg University of Applied Sciences and the University of Cape Coast met in Ghana for their second annual conference entitled "Entrepreneurship, Innovation and Sustainable Economic Development in Africa". The conference included working group sessions and an award presentation for the business plan competition. Three teams from the University of Cape Coast were recognised for their outstanding business ideas: a concept for supplying and distributing high-quality meats, a breakfast delivery service, and a business that designs protective covers for IT devices. The conference attracted considerable attention across Ghana.



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Partner universities around the
world

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Prizes and awards

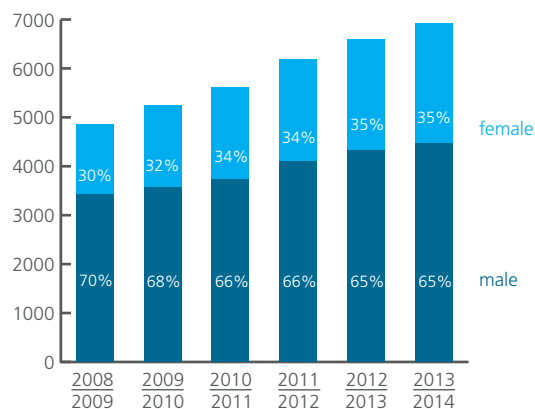
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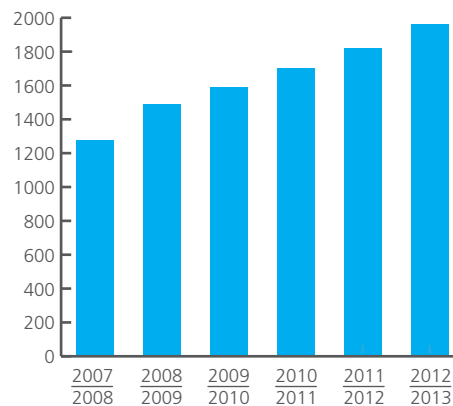
Facts and Figures

As of April 2014

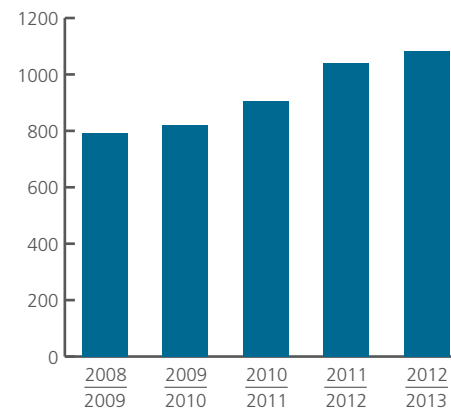
Number of students



First-semester students



Graduates



Programmes of study

For detailed statistics and data on Bonn-Rhein-Sieg University of Applied Sciences:

➔ www.h-brs.de/statistiken

Bachelor's programmes

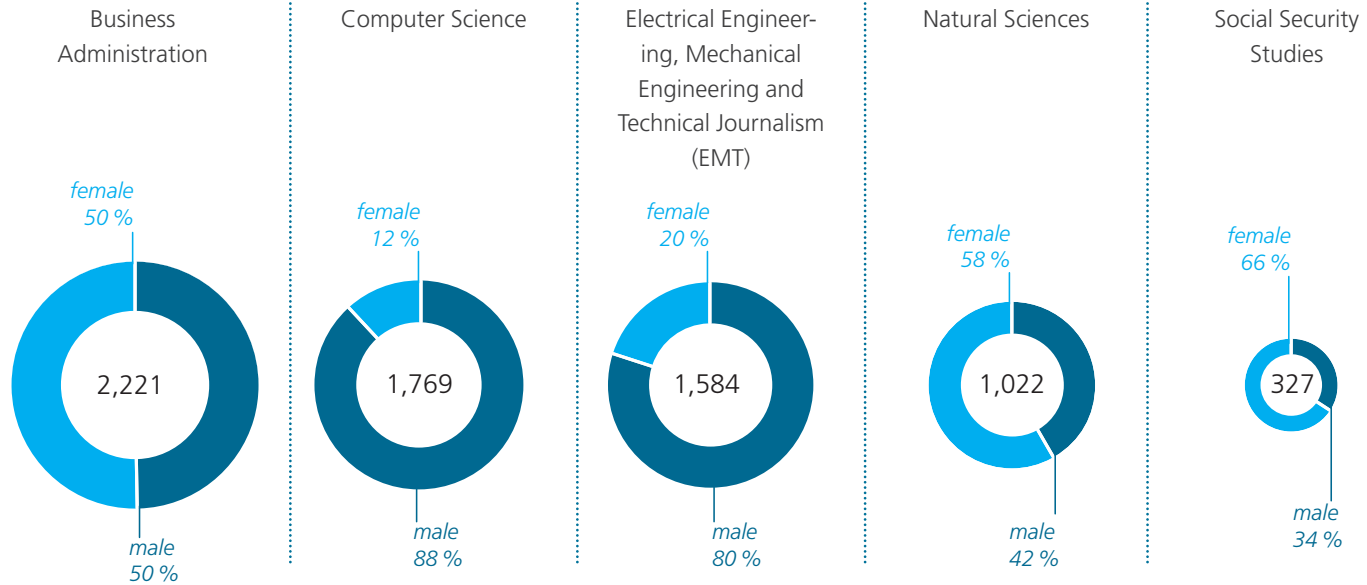
- Applied Biology
- Business Administration (B.A. and B.Sc.)
- Chemistry with Materials Science
- Electrical Engineering
- Electrical Engineering (cooperative)
- Computer Science
- Mechanical Engineering
- Mechanical Engineering (cooperative)
- Forensic Science
- Social Security Studies w/focus on Accident Insurance
- Technical Journalism / PR
- Business Information Systems
- Economic Psychology

Master's programmes

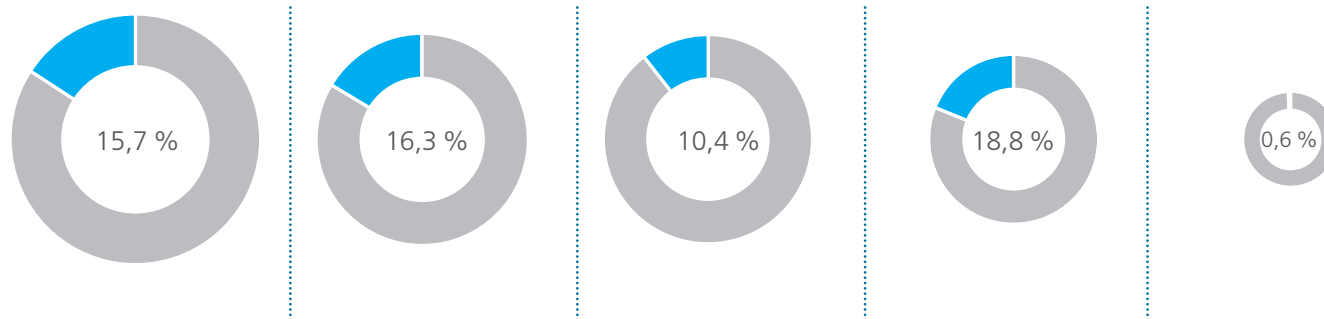
- Analysis and Design of Social Protection Systems
- Analytical Chemistry and Quality Assurance
- Autonomous Systems
- Biomedical Sciences
- Controlling and Management
- Electrical Systems Design
- Computer Science
- Innovation and Information Management
- International Media Studies (cooperative)
- Mechatronics
- Corporate Social Responsibility & Non-Governmental Organisation (CSR & NGO) Management
- Technology and Innovation Communication

Students in the winter term 2013/14

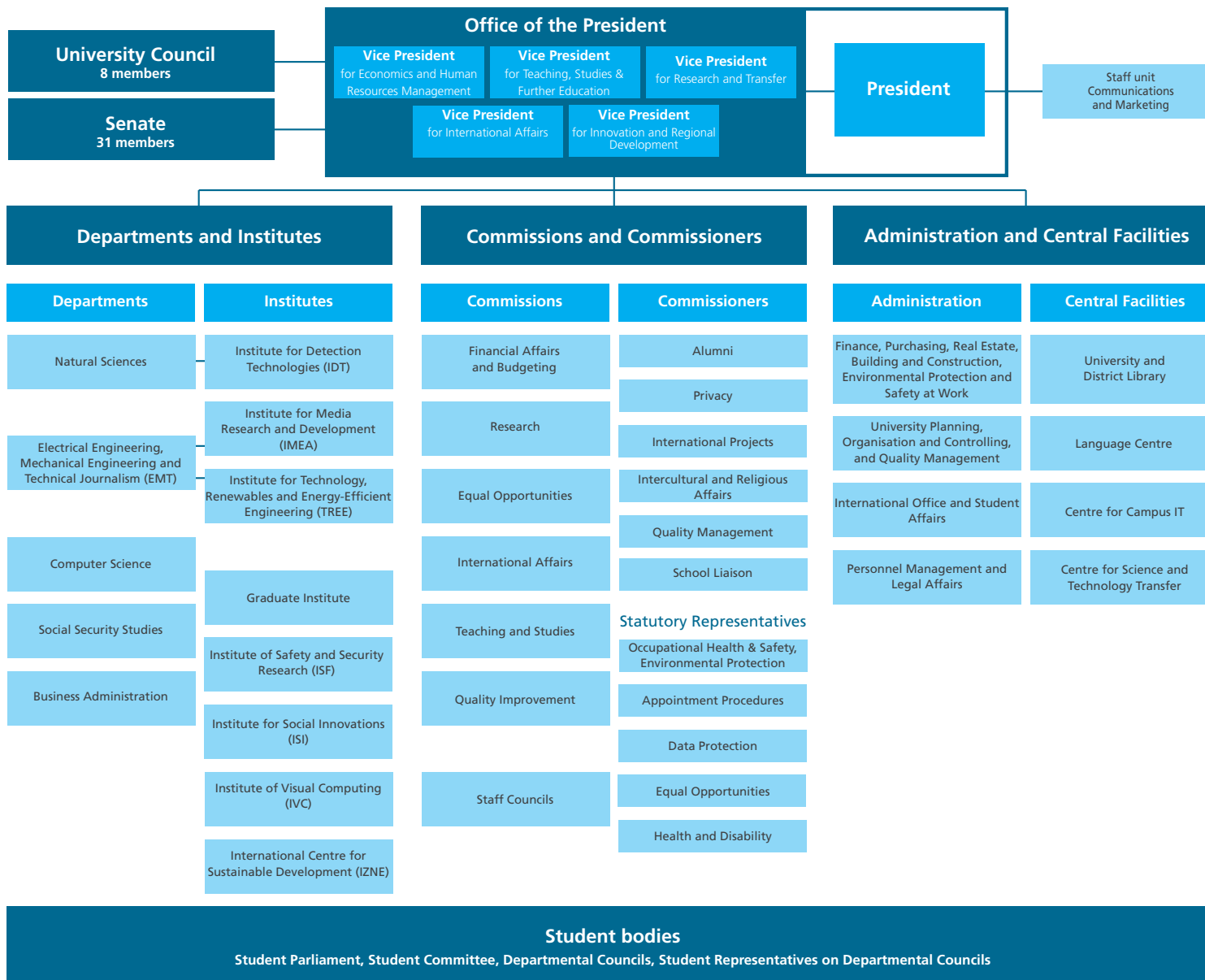
Students by department and gender



Percentage of international students by department



Structure of the University



New appointments

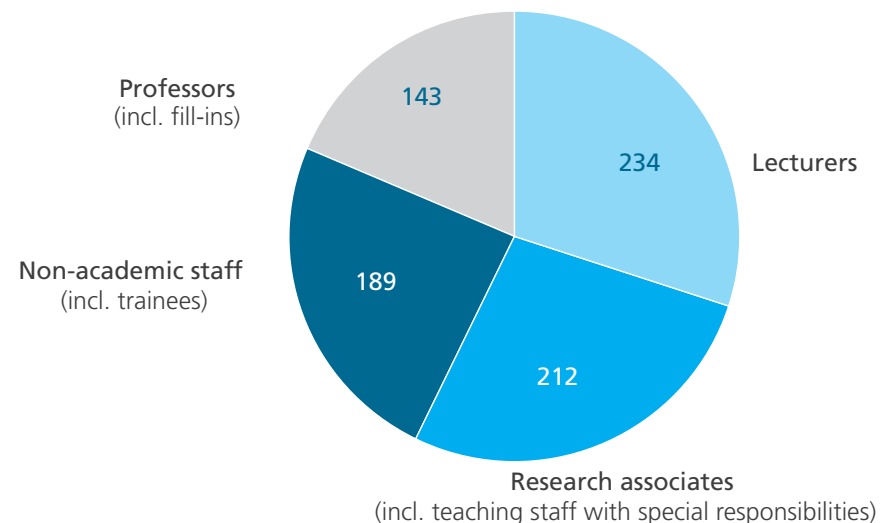
- 21.02.13 **Prof. Dr. Christine Immenkötter**
Department of Business Administration, General Business Management specialising in Internal/External Accounting, Business Finance, Taxes and Operations Management
- 01.03.13 **Prof. Dr. Susanne Keil**
Department of Electrical Engineering, Mechanical Engineering and Technical Journalism (EMT)
- 01.10.13 **Prof. Dr. Harm Knolle**
Department of Computer Science, Database Systems
- 01.01.13 **Prof. Dr. Klaus Lehmann**
Department of Natural Sciences, Chemistry, esp. General Chemistry and Organic Chemistry
- 01.03.14 **Prof. PD Dr. Cristina Massen**
Department of Business Administration, Business Psychology, esp. General Psychology and Scientific Methodology
- 01.06.13 **Prof. Dr. Stefanie Meilinger**
Department of Electrical Engineering, Mechanical Engineering and Technical Journalism/IZNE, Sustainable Technologies, esp. Renewable Energy and Energy-Efficiency
- 15.04.13 **Prof. Dr. Alexander Pohl**
Department of Business Administration, General Business Management specialising in Corporate Management, Marketing, Human Resource Management and Project Management
- 01.09.13 **Prof. Dr. Andreas Priesnitz**
Department of Computer Science, Computer Science, esp. Programming and Programming Methodology
- 01.03.13 **Prof. Dr. Esther Schüring**
Department of Social Security Studies, Social Security Systems esp. International Social Security Systems

University Council

The current members of the University Council were appointed in August 2007 and were confirmed for a further term in 2012: four external members and four members of the university. The University Council is responsible for all strategic matters relating to the university. It advises the Office of the President and monitors the way the Office of the President conducts its business. Furthermore, it appoints the President of the Bonn-Rhein-Sieg University of Applied Sciences and acts as his/her supervisory body. The eight voting members of the University Council are:

- **Prof. Dr. Rupert Gerzer (Chairman)**
Director of the Institute of Aerospace Medicine at the German Aerospace Center (DLR)
- **Prof. Dr. Tobias Amely**
Bonn-Rhein-Sieg University of Applied Sciences
- **Prof. Dr. Elvira Jankowski**
Bonn-Rhein-Sieg University of Applied Sciences
- **Dr. Eckart John von Freyend (Deputy Chairman)**
Gebrüder John von Freyend GbR
- **Dr. Ines Knauber-Daubenbüchel**
Managing Partner, Carl Knauber Holding GmbH & Co. KG
- **Prof. Dr. Gerd Knupp**
Bonn-Rhein-Sieg University of Applied Sciences
- **Prof. Dr. Karl W. Neunast**
Bonn-Rhein-Sieg University of Applied Sciences
- **Dr. Andrea Niehaus**
Director of the Deutsches Museum Bonn

University employee structure



Partner universities around the world

➔ www.h-brs.de/fhbrsmedia/Downloads/Internationales/outgoing/Partnerhochschulen.pdf

Shanghai Ranking:

Top 100:

- Victoria University in Melbourne, Australia

Top 500:

- University of Palermo, Italy
- York University in Toronto, Canada
- Dalhousie University in Halifax, Canada
- Kyungpook National University in Daegu, Korea
- Amsterdam University of Applied Sciences, Netherlands
- University of Valencia, Spain
- University of Dundee, Scotland

Times Higher Education World University Ranking:

Top 100:

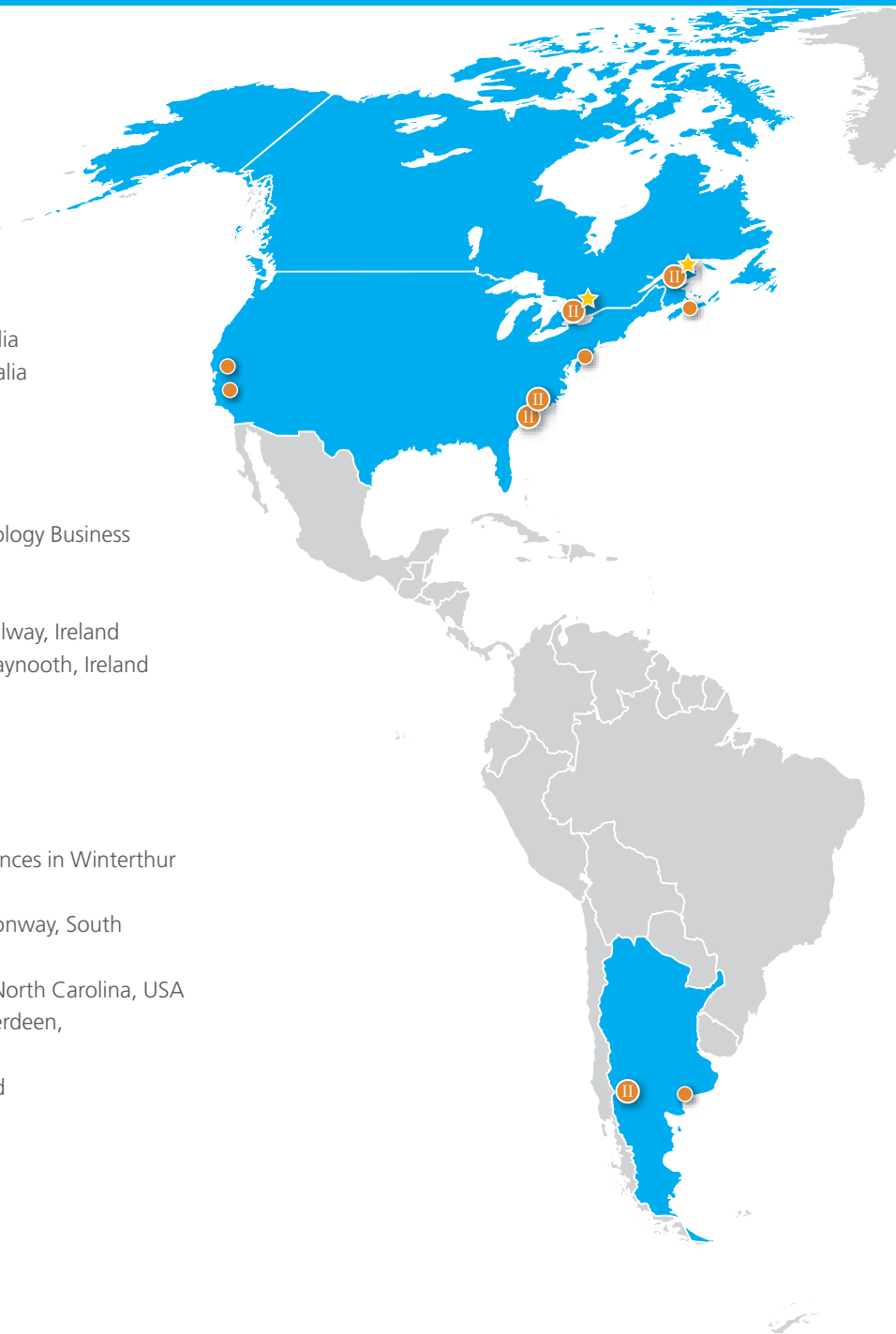
- University of Melbourne, Australia
- University of Queensland, Australia

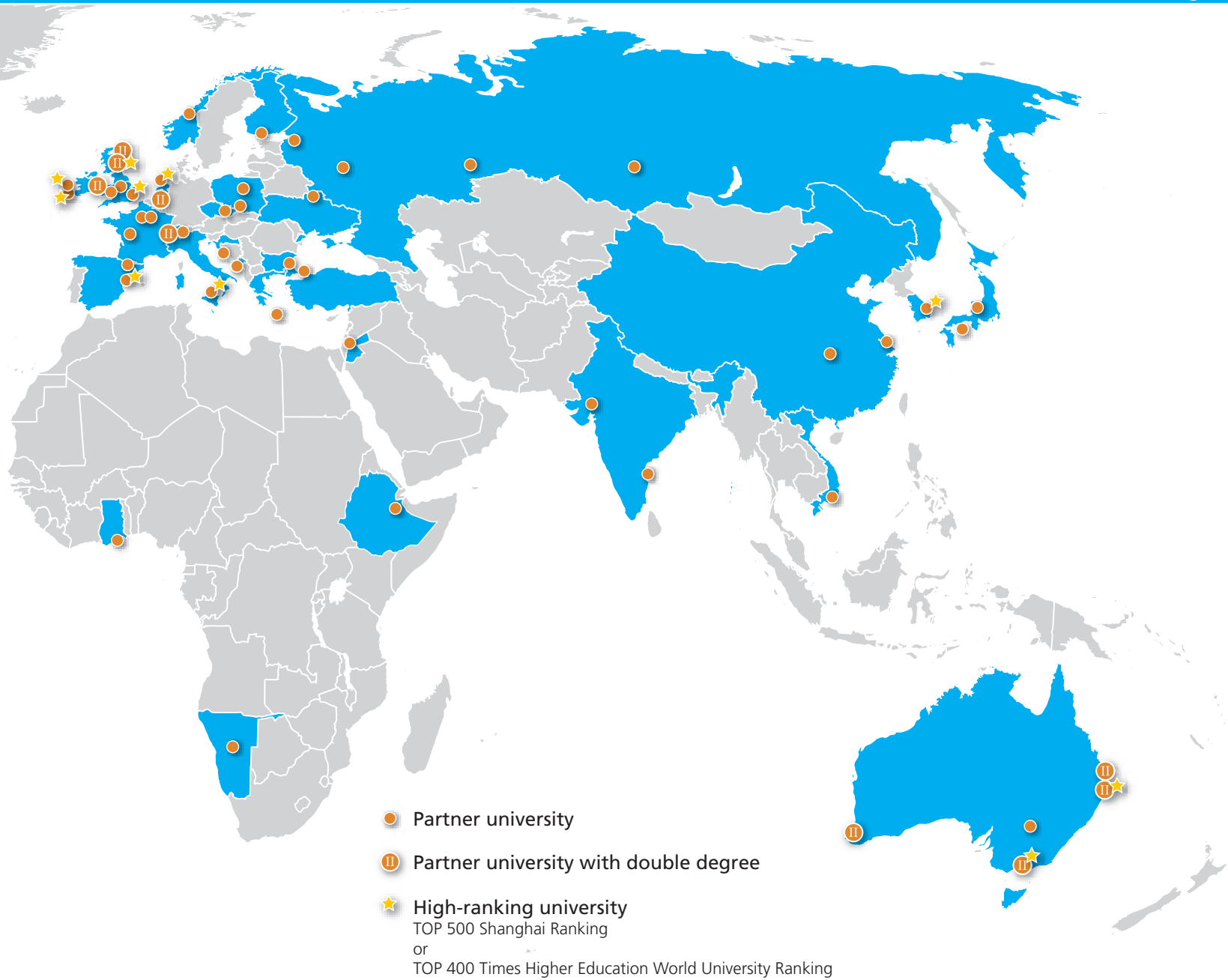
Top 400:

- University of Dundee, Scotland
- Brunel University London, UK
- Dalhousie University, Canada
- Queensland University of Technology Business School, Australia
- York University, Canada
- National University of Ireland Galway, Ireland
- National University of Ireland Maynooth, Ireland
- University of Valencia, Spain

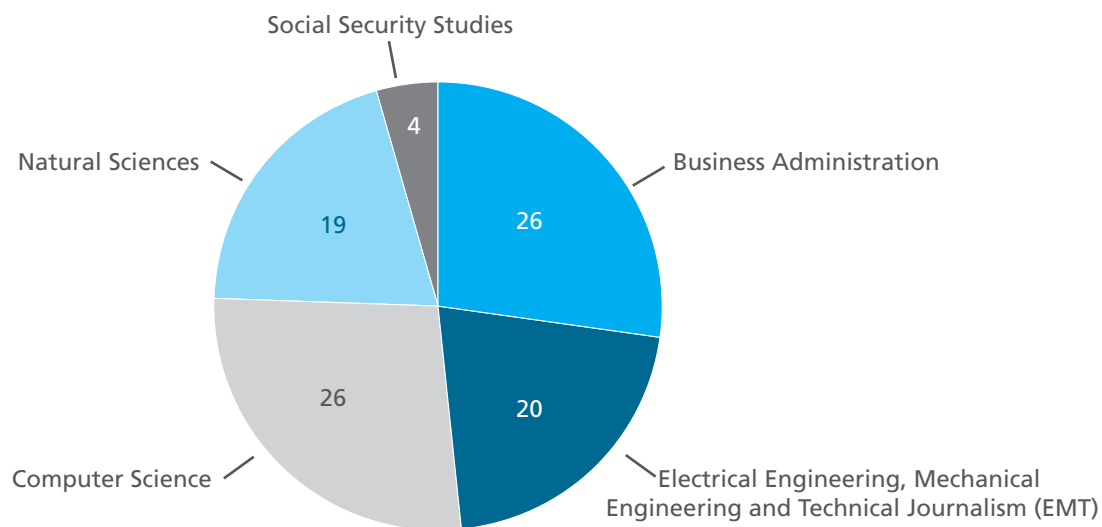
Partner universities with double degrees

- Murdoch University in Perth, Australia
- Victoria University in Melbourne, Australia
- University of Sunshine Coast, Queensland, Australia
- Queensland University of Technology, Australia
- Dublin Business School in Dublin, Ireland
- York University in Toronto (Dual Bachelor Degree), Canada
- University of New Brunswick (Dual Bachelor Degree and Dual Master Degree), Canada
- HAN University of Applied Sciences in Nijmegen, Netherlands
- Zurich University of Applied Sciences in Winterthur (double degree), Switzerland
- Coastal Carolina University in Conway, South Carolina, USA
- Pfeiffer University in Charlotte, North Carolina, USA
- Robert Gordon University in Aberdeen, Scotland
- University of Aberdeen, Scotland
- University of Dundee, Scotland
- Hunan University in Changsha, People's Republic of China





Number of international partnerships by department



Country	University	Department
Argentina	Universidad Nacional de San Luis	EMT
	Universidad Tecnológica Nacional in Buenos Aires	EMT
Australia	Murdoch University in Perth	Natural Sciences (Biology) Business Administration
	Victoria University in Melbourne	Natural Sciences (Biology) Business Administration All other departments
	University of Sunshine Coast, Queensland	Business Administration
	Griffith School of Engineering	EMT
	Queensland University of Technology, Business School	Business Administration

Country	University	Department
Bulgaria	University of Economics in Varna	Business Administration Computer Science
Canada	York University in Toronto	Computer Science
	Dalhousie University in Halifax	Computer Science
	University of New Brunswick in New Brunswick	Computer Science
Croatia	University of Dubrovnik	Computer Science
Czech Republic	Tomas Bata University in Zlín, Faculty of Technology	Natural Sciences (Chemistry with Materials Science) All departments (Ph.D. programmes)
Ethiopia	Agro Technical and Technology College in Harar	EMT
Finland	Helsinki Metropolia University of Applied Sciences in Espoo, Institute of Technology	Computer Science
France	Université de Poitiers, Institut d'Administration des Entreprises (I.A.E.)	Business Administration
	Institut Universitaire de Technologie (IUT) Paris Descartes	Business Administration
	Université Paris-Est Créteil Val de Marne (UPEC)	Natural Sciences (Biology)
Ghana	University of Cape Coast	Business Administration
Greece	University of Crete	Computer Science
India	Indo-German Center for Higher Education	Computer Science EMT (Mechanical Engineering)
	Mudra Institute of Communication (MICA) Ahmedabad, Gujarat	EMT (Media Studies)
Ireland	Institute of Technology Tralee (ITT)	Business Administration
	National University of Ireland in Galway	Business Administration
	Dublin Business School in Dublin	Business Administration
	National University of Ireland, Maynooth Innovation Value Institute	Business Administration

Country	University	Department
Italy	Università di Palermo, Dipartimento di Biologia Cellulare e dello Sviluppo	Natural Sciences (Biology)
Japan	Kagawa University in Takamatsu	Business Administration Computer Science EMT
	Nagaoka University of Technology	Computer Science
Jordan	Deutsch-Jordanische Hochschule/ German-Jordanian University (GJU)	Computer Science Business Administration
Korea	Kyungpook National University in Daegu	Business Administration
Montenegro	University of Montenegro, Podgorica	Computer Science
Namibia	Polytechnic of Namibia in Windhoek	Social Security Management
Netherlands	HAN University of Applied Sciences, Nijmegen	Natural Sciences (Biology)
	Hogeschool van Amsterdam	Computer Science
Norway	HiST, Sør-Trøndelag University College in Trondheim	Computer Science EMT (Electronics) Natural Sciences (Biology and Chemistry with Materials Science)
People's Republic of China	Nantong University	Computer Science EMT
	Hunan University in Changsha	Business Administration
Poland	Jagiellonen-Universität in Kraków	Natural Sciences (Biology)
	Warsaw University of Technology	Computer Science
Russian Federation	St. Petersburg State University of Information Technologies, Mechanics and Optics	EMT
	Moscow State Institute of Radioengineering, Electronics and Automation (Technical University)	Computer Science
	Moscow Institute of Electronic Technology (Technical University) (MIET) in Zelenograd, National Research University of Electronic Technology	EMT
	Ufa State Aviation Technical University	Computer Science
	Tomsk Polytechnic University in Tomsk	Computer Science

Country	University	Department
Spain	University of Valencia	Natural Sciences (Biology)
	Universitat Politècnica de València	EMT Computer Science
	Universitat Politècnica de Catalunya/BarcelonaTech, Barcelona School of Informatics	Computer Science
Switzerland	La Haute Ecole Arc	Computer Science EMT
	Zurich University of Applied Sciences in Winterthur (ZHAW)	EMT (Technical Journalism)
Turkey	Istanbul University	EMT (Technical Journalism)
	Yeditepe University in Istanbul	Natural Sciences (Biology)
Ukraine	Chernihiv State Technological University (CSTU) in Chernihiv	EMT
United Kingdom	Robert Gordon University in Aberdeen	Natural Sciences Business Administration
	University of Aberdeen	Natural Sciences (Biology)
	University of Dundee	Natural Sciences (Biology)
	Keele University in Staffordshire	Business Administration
	London South Bank University	Natural Sciences (Chemistry) Business Administration
	Glyndŵr University in Wrexham/Wales	EMT
	Brunel University London	Ph.D. programmes
USA	Coastal Carolina University in Conway	Business Administration
	Pfeiffer University in Charlotte, North Carolina	Business Administration
	California State University in Sacramento	Computer Science
	University of Bridgeport	Business Administration
	University of California, Riverside (UCR)	Business Administration
	Wartburg College in Waverly, Iowa	EMT (Technical Journalism)
Vietnam	Vietnamese-German University (VGU) in Ho Chi Minh City	Computer Science

Prizes and awards

IfKom Prize 2013

André Bier, Lionel Djeukam, Peter Eiser, Markus Kessel and Pascal Schneiders, Department of Computer Science, interdisciplinary project in the field of Management Qualification

Best Master's thesis by a female student

Jacqueline Rohrbach, Biomedical Science, Department of Natural Sciences

University Innovation Prize

Prof. Dr. Edda Tobiasch, Professor for Genetic Engineering and Cell Culture, and Prof. Dr. Margit Schulze, Professor for Industrial Organic Chemistry and Polymer Chemistry, Department of Natural Sciences

DAAD Prize

Antonio Martins, Biomedical Sciences, Department of Natural Sciences

VDMA University Prize "Bestes Maschinenhaus 2013"

Dr. Martschink, Evaluation Officer, EMT Department

Prof. Dr. Johannes Geilen, Dean of EMT Department

Prof. Dr. Melcher, Quality Management Officer in EMT Department

FBTI Computer Science Prize

Jochen Wierum, Master in Department of Computer Science, Master-Thesis: „Ein Ansatz zum Aufbau und zur Auswertung wiederverwendbarer Strukturen aus Ticketsystem- und Versionskontrollsystem-Daten für multiple Analysen“

IZNE Prize for Sustainability and Responsibility in cooperation with the "Gesellschaft der Förderer" (Society of Donors)

Claudia Lutz, Department of Business Administration

Winners of the "Gesellschaft der Förderer" (Society of Donors) Awards

Sven Schneider, Master of Autonomous Systems, Department of Computer Science

Award sponsor: DSG-Canusa GmbH

Theo Pack, Department of Computer Science

Award sponsor: DSG-Canusa GmbH

Genesys Encalada, Department of Business Administration

Award sponsor: true fruits GmbH

Rüdiger Huf, Department of Business Administration

Award sponsor: Kreissparkasse Köln

Felix Christian Sepcke, EMT Department

Award sponsor: Eaton Industries GmbH

Eduard Paal, EMT Department

Award sponsor: Dr. Reinold Hagen Stiftung

Juliane Werner, Forensic Science, Department of Natural Sciences

Award sponsor: Innovatec GmbH

Aysegül Yasari, EMT Department

Award sponsor: Verlag für die Deutsche Wirtschaft AG

Dilek Güneri, Biology, Department of Natural Sciences

Award sponsor: Antiinfectives Intelligence GmbH

Tobias Schwank, Chemistry, Department of Natural Sciences

Award sponsor: Siegwirk Druckfarben AG & Co. KGaA

Frank Mannes, Department of Social Security Studies

Award sponsor: Deutsche Gesetzliche Unfallversicherung e.V.

SaSeRos (robot competition) - Winning teams

Best Robot Award: (Team 10) Amund Eriksson Aarø (HiST), Dennis Kimm (BRSU), Thomas Mowatt (HiST), Jim Martin Somby (HiST), Leo Veenstra (HvA), Patrick de Wit (HvA)

Best Specification: (Team 05) Pascal Boeschoten (HvA), Olga Fedtchenko (BRSU), Espen Rise Halstensen (HiST), Vu Nguyen (Metropolia), Kjeld Nieuwendijk (HvA), Simon Nolden (BRSU)

AFCEA Bonn e.V. student awards

Jessica Millberg, Department of Computer Science, Master's thesis: "Markerloses, modellbasiertes Echtzeit-Tracking für AR-Applikationen"

DGUV Prize on Occupational Diseases

Josefine Lindner, Bachelor's thesis, Department of Social Security Studies

German Federal Cross of Merit

Gerhard Bigge, longstanding lecturer in the Department of Social Security Studies

German Fairness Prize awarded by the International Fairness Forum

Detlef Flintz, lecturer in Consumer Affairs Journalism, EMT Department

Young Talent Award

Argang Ghadiri, Department of Business Administration

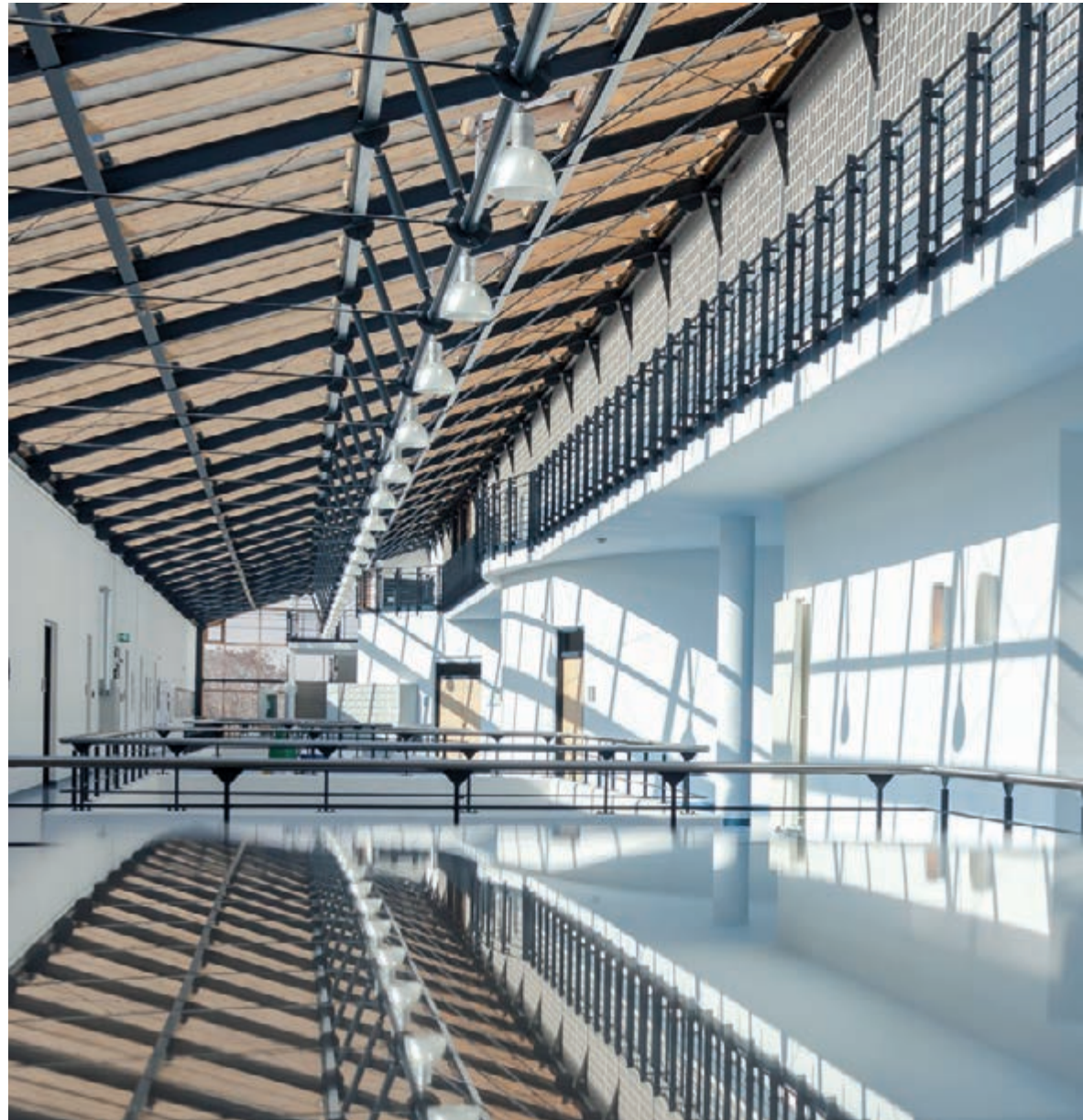


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