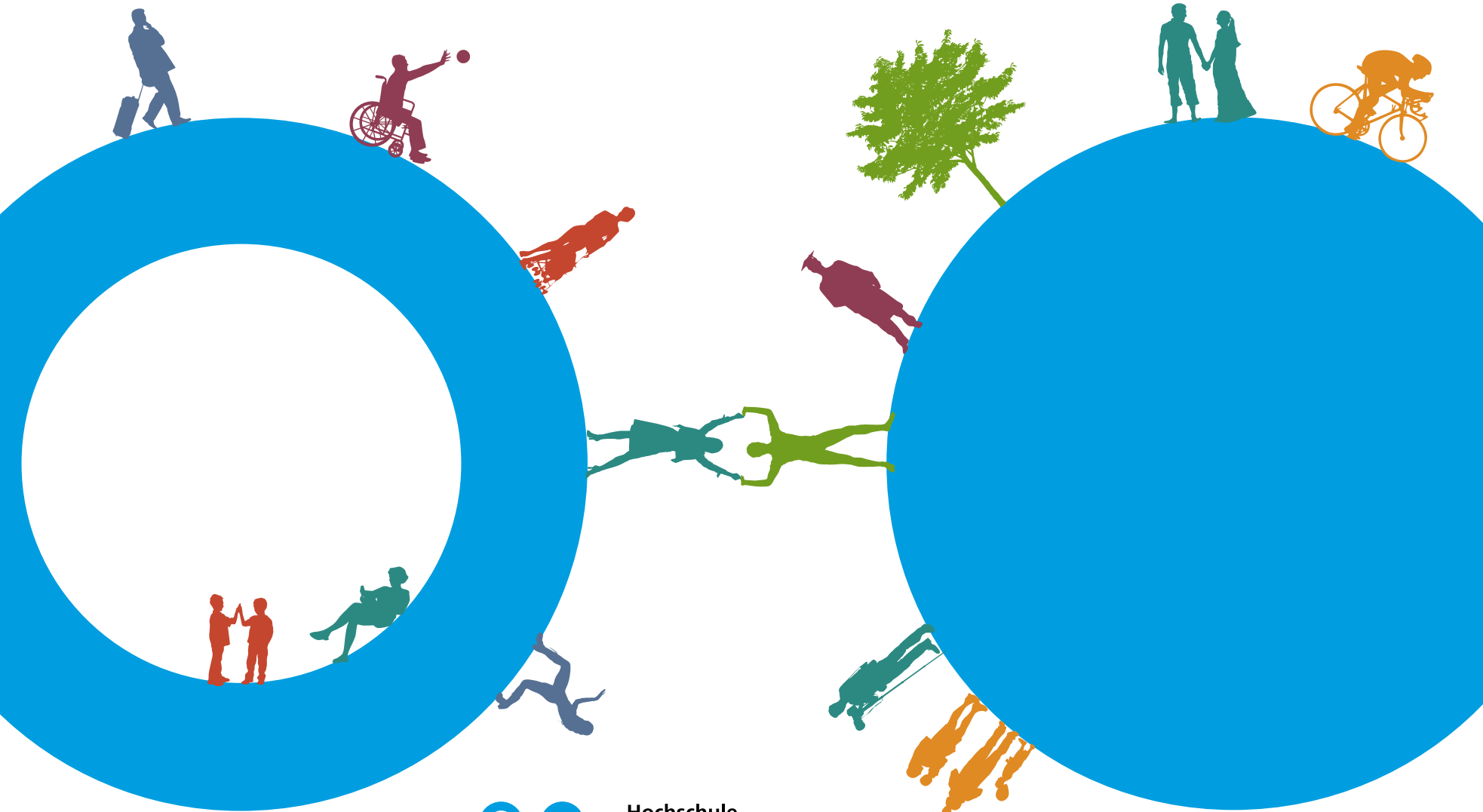


# Taking the Lead on Responsibility: The University in Society



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

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# Taking the Lead on Responsibility: The University in Society



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

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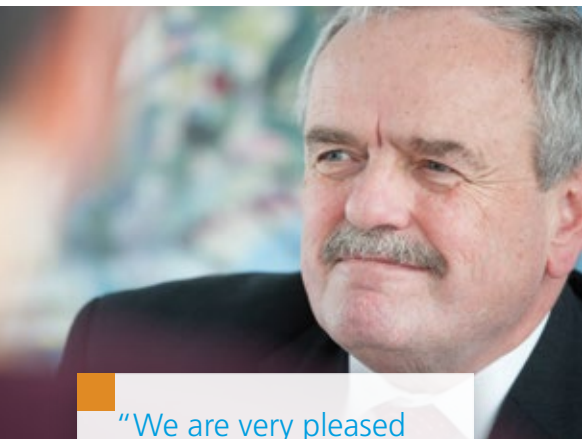
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## The responsibility of education

An Interview with Erik Bettermann, Director General of Deutsche Welle in Bonn, and Hartmut Ihne, President of Bonn-Rhein-Sieg University of Applied Sciences, on their collaboration and the responsibility of educating the next generation.

**The International Media Studies Master's Programme is a joint project between your two organisations and the University of Bonn. What was the impetus for the collaboration?**



“We are very pleased to be collaborating with the still young and growing Bonn-Rhein-Sieg University of Applied Sciences, whose programmes of study emphasise hands-on training and professional development.”

Erik Bettermann

**Erik Bettermann:** Deutsche Welle conveys today's Germany to the rest of the world. The Deutsche Welle Akademie is part of this, a programme we established back in 2004 and which today trains around 3,000 journalists annually, mainly from developing countries. The International Media Studies programme is located within the DW Akademie. Our mission is to educate and impart values, and this is something we have in common with Bonn-Rhein-Sieg University of Applied Sciences (BRSU). We are very pleased to be collaborating with the still young and growing university. The fact that BRSU's programmes of study emphasise hands-on training and professional development is, in my view, an important advantage.

**Hartmut Ihne:** Bonn-Rhein-Sieg University of Applied Sciences offers – and continues to develop – several different programmes of study in the area of media and journalism, so Deutsche Welle is an ideal partner. Deutsche Welle generates an extraordinary range of journalistic output – from online reporting, to radio and television coverage. The impetus for the collaboration with Deutsche Welle was the idea for the joint programme of study. And it has developed very nicely. We have offered the Master's programme since 2009 and each year have had 300 applicants for just

20 spots. The programme's first graduates are today doing community radio in their home countries or running small newspapers.

**Are you planning further collaborative efforts?**

**Hartmut Ihne:** We are planning a Master's programme together with Istanbul University. This is comparable to the Master of International Media Studies. Deutsche Welle is a partner on this project. Erik Bettermann and I are also planning a trip to the US this summer to visit Wartburg College, a university in Iowa, which has a very ambitious journalism programme. Through a three-way collaboration between Wartburg College, Deutsche Welle and BRSU, we want to generate new teaching content. We also want to continue to expand and strengthen our network of partners in the area of applications-oriented research. A step in this direction is our newly established Institute for Media Development and Analysis (IMEA), which focuses on issues in the area of media and communications sciences.

**How should higher education be structured so that it responds to the needs of the younger generation?**

**Hartmut Ihne:** For me, there are three important aspects. First, students need an excellent academic base in their respective disciplines. Having a firm technical grasp of their field, and the ability to apply this know-how, is the basis for professional advancement and success. It is also important that our graduates be capable of thinking and acting

“outside the box”. Part of this is having the intercultural competence to be comfortable working anywhere in the world. Today’s world is characterised by trans-regional and international interdependencies – whether in business, science, politics or culture. We support this in a number of ways, including the numerous international university partnerships, which offer excellent opportunities for semesters abroad. We also pursue a strategy of “regional internationality”. We cooperate with German companies based here in the region that have operations or offices abroad and work with them to create foreign internship opportunities for our students. My hope is that we can make it possible in the future for at least half of our students to gain international experience. The third aspect is about (learning) integrity and fairness. Graduates need to understand how their words and actions impact the people around them and to develop a sense of responsibility to themselves, their company, society and future generations. These are aspects that we will also be discussing in the context of the University Development Plan 2020, which we are currently developing together with representatives from all university groups. As part of this process, we make sure to make the connection between university development and regional development to fulfil our responsibility to the region.

**Erik Bettermann:** I would like to add the role-model aspect to these points. Today’s university graduates are the leaders of tomorrow. If we want to teach young people how to lead and assume responsibility, then it is the teachers and instructors, more than anyone else, who carry that responsibility. In other words, a lecturer or instructor must be aware of his or her role-model function and the responsibility that he or she has to the next generation.



**One of the things that Deutsche Welle and Bonn-Rhein-Sieg University of Applied Sciences have in common is their commitment to development cooperation. Why is this so important?**

**Erik Bettermann:** In the developing and emerging countries there is a “war of information” going on. China and Iran are investing millions in media channels and using them to spread their propaganda. Deutsche Welle tries to work against this by promoting independence, diversity and transparency in the media. Together with the German Federal Ministry for Economic Cooperation and Development, we take a comprehensive approach to media development. We educate and train media professionals in the respective countries and make sure that local media organisations are economically self-sufficient, that disadvantaged social groups have access to information, and that the legal framework is in place to ensure freedom of the press and freedom of expression. For us, this basic package is fundamental for democratic development.

“Graduates need to possess the intercultural competence to be comfortable working anywhere in the world. We support this through numerous international university partnerships, which offer excellent opportunities for semesters abroad.”

Hartmut Ihne



“Universities, together with companies, are in a position to introduce truly new ideas into the context of development cooperation work.”

Hartmut Ihne

**Hartmut Ihne:** Today around 85 percent of the world’s population lives in emerging and developing countries – not in the OECD countries. We are talking about a global power shift – a shift of economic power from the traditional economic centres USA, Japan and Europe to the BRICS countries: Brazil, Russia, India, China and South Africa. Other countries will be joining this list. There is already a term for these up and coming economies: the “Next Eleven”, which also includes African countries. We as a university need to re-position ourselves and be prepared for radical changes

to the world’s economic order. Our graduates need to be prepared for these changes so that Germany can maintain its position and status in the world. Maintaining our economic power goes hand in hand with maintaining freedom and democracy.

Universities, together with companies, are in a position to introduce truly new ideas into the context of development cooperation. We do not want to impose established systems on our partners – in fact just the opposite. It’s important to recognise that we can all learn from one another;

there are brilliant minds everywhere. Through the collaborative efforts of students and instructors we, as a university, can contribute to development and to better understanding among people. We sow the seeds for future collaborations, which benefits both the business community and society as a whole.

**In what way do Bonn-Rhein-Sieg University of Applied Sciences and Deutsche Welle contribute to economic and social development here in the region?**

**Hartmut Ihne:** The Bonn-Berlin compensation has made this region very international, so our efforts in the area of international development cooperation also contribute to the region. We collaborate, for example, with the Gesellschaft für Internationale Zusammenarbeit (GIZ), various NGO’s and the United Nations, all of which are headquartered here. These organisations can draw on the expertise of our economists, scientists, engineers and journalists. For two years now, I have made regular visits to medium-sized companies in the region to better understand what skills and competencies they expect from our students and researchers. Many people are not aware of this, but most of these companies have long since expanded their operations internationally. So there is demand for graduates with strong English language skills, intercultural skills and international experience under their belts. Our programmes of study are right in line with this.

**Erik Bettermann:** The significance of small and medium-sized business (SME) has long been underestimated, even though these companies are responsible for around 70 percent of exports. We produce a regular series that



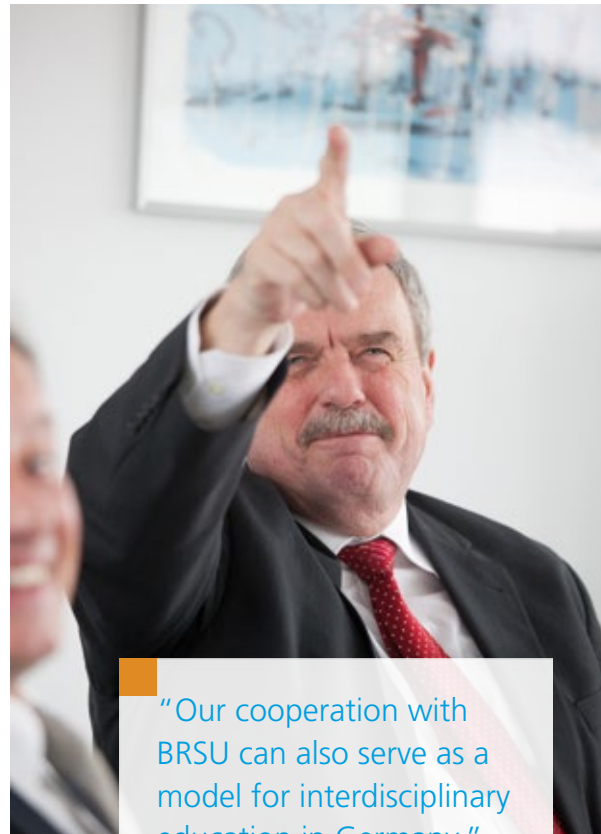
profiles SMEs as a way to increase their visibility. Vocational training and university education need to respond even more to the needs of medium sized businesses. Another important point is our innovative strength. Many European patents originate in Germany. Quality education for the next generation is the key to maintaining this innovative strength, which is why we get involved here in the region – through our cooperation with BRSU, for example – and try to serve as a model for interdisciplinary education in Germany.

#### What does responsibility mean for you personally?

**Erik Bettermann:** As Director General of Deutsche Welle, I have a wide range of responsibilities. First, I am responsible for Deutsche Welle's 3,000 employees. To secure these jobs over the long term, employees need to keep abreast of the latest developments in communications. Deutsche Welle's transition from its earlier focus on radio to today's multi-media approach was an important step, though it certainly was challenging to carry it through. I also have a responsibility to Germany and the German public, since Deutsche Welle is financed through taxpayer money. Finally, I have the responsibility to myself, to my values and to upholding these values – which is something I have done over the course of my 12 year tenure.

**Hartmut Ihne:** I would like to underscore that point. Responsibility is about putting values and morality into practice. I have to recognise that I am free to make my own decisions, either for or against something. But when making decisions, I must also consider the fact that everything that I do – or refrain from doing – has an impact on others.

Part of responsibility is about having values, committing to them, and realising them. I need to make sure that my words and actions are, ultimately, for the good of others. And last but not least, I need to communicate and cooperate with others fairly.



“Our cooperation with BRSU can also serve as a model for interdisciplinary education in Germany.”

Erik Bettermann

#### Deutsche Welle

Founded in 1953, the mission of Deutsche Welle over the course of the last 60 years has been to present an up-to-date picture of Germany to the rest of the world. Based in Bonn and Berlin, Deutsche Welle employs 3,000 people and broadcasts in 30 different languages via Internet, radio and television on news and developments in the areas of politics, business, culture, education or Europe. Deutsche Welle also provides a wide range of materials to individuals interested in learning the German language. It reaches an audience of approximately 86 million people per week. The DW Akademie, founded in 2004, trains approximately 3,000 media professionals in Germany and abroad each year.

## Taking on responsibility

Bonn-Rhein-Sieg University of Applied Sciences is fully committed to living up to its social responsibility. We make sure our students are equipped with the skills and abilities required of a socially responsible citizen: solid expertise in their field, intercultural competence, a sound ethical compass and fairness. Our researchers maintain high standards. We as a university take an active part in social dialogue, which includes ensuring that development is sustainable and humane. Our job is to lead by example – within the region and beyond. We have made substantial progress in this area, with several exciting projects and initiatives already well underway – and with still many more to come.

Hartmut Ihne,  
President

Bonn-Rhein-Sieg University of Applied Sciences has played a leading role in transforming the region from a political centre of power to a science and research hub. We “live” our responsibility and actively seek out opportunities to interact with the people, communities and businesses in the area. We are also conscious of the university’s responsibility to drive innovation. For this reason, we are constantly on the lookout for solutions to address the social challenges facing the world today.

Rainer Clement,  
Vice President for Innovation &  
Regional Development



Our applied research approach and focus on knowledge and technology transfer are positive contributors to the economic welfare of the region. As a university we bear a particular responsibility towards society. We have therefore aligned our research focus areas to address the social challenges of our time. For each and every researcher at BRSU, this means responsible action, attention to the ethical dimensions of their work and strict adherence to the rules of good scientific practice.

**Volker Sommer,**  
Vice President for Research and Transfer

Responsibility means less arbitrariness in the learning process and instead, lending it greater relevance. The ability to take on responsibility is a matter of maturity. For Bonn-Rhein-Sieg University of Applied Sciences, living up to its social responsibility means making sure that scientific knowledge and theories are applied in a way that benefits the whole. And this is exactly what students who come to BRSU want to learn – how to apply their knowledge in the spirit of social responsibility.

**Manfred Kaul,**  
Vice President for Teaching,  
Studies & Further Education

As chancellor and member of the Office of the President, I oversee the university's contribution to society as well as matters pertaining to staff, administrative services and the use of budgetary funds. My task of finding a workable and effective middle ground between often conflicting interests within the university is no easy one. In all matters, we are committed to taking a holistic view – one that considers the legal and economic ramifications well as the overarching objectives and targets of the university.

**Hans Stender,**  
Chancellor



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## “Different is normal”

### International conference on disability management

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#### Forgetting challenges for a day

They not only know the ins and outs of the law, but know how to interact with people, too. Each year the students from the Department of Social Security Management organise a weekend event for people with brain and head injuries. Guided by instructor Caroline Lüder and Professor Christian Rexrodt, the project team of 12 students planned the event following strict project management principles and invited 20 disabled individuals on a field trip to Andernach in June 2012. The weekend was spent doing arts and crafts, cooking and visiting the Andernach geyser, giving participants a brief hiatus from the challenges of everyday life. Support for the event was provided by the German Social Accident Insurance (DGUV) and the Hannelore Kohl Stiftung.

Students who study Social Security Management at the Hennef campus will most likely end up working at one of Germany's accident insurance companies. The topic of disability will therefore be daily fare for them. To raise awareness for disability-related issues, in September 2012 Professor Christian Rexrodt took 30 students from BRSU's Social Security Management programme to London to participate in the International Forum on Disability Management (IFDM).

The IFDM, which takes place every two years, is the only international conference dedicated solely to the field of disability management. The three-day field trip was designed to broaden the students' academic understanding of the topic as well as to build on social competencies necessary for interacting with people with disabilities.

“Listening to the talk by British Paralympian Anne Wafu-la-Strike made me realise that being different is normal,” says the student Carina Hübner. “It's a message I carry with me ever since and try to convey in my own work in accident insurance.”

A special class was conducted for the students enrolled in the “Disability Management” and “Experiencing Disability” courses to prepare for and follow-up on the excursion to London. Bonn-Rhein-Sieg University of Applied Sciences and the German Social Accident Insurance (DGUV), the programme's external sponsor, covered the costs of the trip with the exception of plane travel.

International Forum on Disability Management 2012:

➔ <http://lifdm2012.rsm.ac.uk>



## Engineering students see blue

### The “Blaue Schiene” programme brings sustainability to the classroom

“Here and now, but not at the expense of somewhere else and not at the expense of tomorrow.” For Iris Groß, this slogan from the German Internet platform “Utopia” encapsulates perfectly the meaning of sustainability. It’s a topic of great importance for the professor for Mechanical Engineering, and her goal is to raise awareness for sustainability among her students at BRSU.

To this end, Groß and her colleagues from the Department of Electrical Engineering, Mechanical Engineering and Technical Journalism (EMT) have developed a study programme in sustainable engineering called the “Blaue Schiene”, which means “blue track” in German. The colour blue is commonly used in industry and the private sector to denote clean, environmentally low-impact solutions.

In concrete terms, “Blaue Schiene” means that as of winter term 2012/13, engineering students at BRSU can now integrate sustainability-related topics into their coursework and projects. Projects include optimising the construction of recumbent bicycles, for example, or converting a gas-driven motorcycle to electric power. “There’s a great deal of idealism among our students,” says Professor Iris Groß. “They don’t want to create new problems – they want their work to have a positive impact on the world now and into the future. The ‘Blaue Schiene’ programme has fallen on fruitful ground for sure.” As Groß also points out, by now sustainability is part and parcel of the engineering profession. Thanks to the new programme, students enrolled in the EMT department will be well prepared.

*Sustainability up close: Students from the EMT department visiting the Westerwald wind farm*

#### Links

➔ <http://fb03.h-brs.de/BlaueSchiene.html>  
(in German only)

Utopia – a sustainability portal (in German only):

➔ [www.utopia.de](http://www.utopia.de)



#### Süwag funds sustainable engineering project

There’s no time for an idle mind for Mechanical Engineering student Tobias Böll, who solved the prize question sponsored by the energy supplier Süwag AG during an excursion sponsored by the company. Böll’s task was to calculate the cost of an idle wind turbine over a given period of time. Süwag rewarded the student with full funding for a “Blaue Schiene” project of his choice. Some 30 students from the EMT department answered the invitation from Süwag and Koblenzer Elektrizitäts- und Verkehrs-AG in May 2012 to tour a hydroelectric power plant and a wind turbine from the inside. Windrad von innen zu besichtigen.

## Changing sides in the lecture hall

### New impulses for university teaching with “Tag der Lehre”

When “Tag der Lehre” (Teaching Day) rolled around on 22 November 2012, the lecture hall seats were filled not with students but with BRSU instructors. Around 150 members of the university teaching staff took advantage of the event designed to explore and evaluate their own teaching methods. Lectures, short workshops and improvisational theatre provided participants with new insights and ideas for effective teaching. The day-long event is part of the state and nationally funded Pro-MINT-us project, an initiative for smoothing the transition to university study for first-semester students at Bonn-Rhein-Sieg University of Applied Sciences. “We want an excellent, innovative and international university,” said speakers Paul Bossauer and Daniel Kajan, who are both students at BRSU. The university is cer-

*Taking time to focus on teaching excellence: BRSU instructors gather fresh perspectives on teaching approaches*



“I am passionate about what I teach and that comes across to my students.”

Ursula Konrads,  
Professor for Mathematics and Computer Science

tainly close to fitting the bill with its “Tag der Lehre” event and the newly established teaching prize. Announced for the first time in 2012 and sponsored by the Office of the President, the prize invites students to nominate instructors for teaching excellence.

#### Teaching Prize goes to Ursula Konrads

Professor Ursula Konrads was named the first winner of the university's Teaching Prize during the “Tag der Lehre” event. The honour came as somewhat of a surprise, says Konrads. “One of the subjects I teach is mathematics,” she says. “It’s a nightmare course for some engineers.” As a computer scientist – and not a mathematician – Konrads says she fully understands the students’ difficulties with mathematical concepts. She is patient and makes sure to address every question. “My classes are actually very old-fashioned – I never use PowerPoint, for example,” admits Konrads. “But I am passionate about what I teach and that comes across to my students.”

➔ <https://kaul.inf.h-brs.de/wordpress/2012/10/interaktive-landkarte-der-bmbf-geforderten-projekte-im-qualitatspakt-lehre/>



## Journalist and media-maker

### Bodo Hombach provides insight into media policy and media management

“Media are a part of your lives,” says Bodo Hombach, looking at the students over his reading glasses. “That is why you signed up for this seminar.” With his seminar on Media Policy and Media Management, Hombach’s goal is to give students plenty of real-world input. To this end, the former managing director of WAZ Media Group and SPD politician invites people actively involved in media management and media policy to speak to the students. The hottest topic for all guests – from Andreas Rudas, member of the RTL Group Executive Committee, and Erik Bettermann, Director General of Deutsche Welle, to Rüdiger Oppers from the newspaper Neue Ruhr/Neue Rhein Zeitung in Essen – is by far the Internet, a medium the students have grown up with. For the visiting media specialists, the discussions provide insight into the students’ attitude towards online shopping, for example. As it turns out, the young people are generally open to paying for services online. There’s just one requirement: It has to be easy and fast.

#### Fully focussed

Students meet four times for four hours with Hombach and his guests. It is tiring but the students are undaunted and remain fully focused. Unlike in other seminars, Hombach’s students are rarely seen fiddling with their phones or whispering together. They are tuned in and many take notes, even though there is no examination at the end of the seminar. One thing that struck Hombach was the students’ punctuality. “They obviously don’t practice the academic quarter-hour buffer here.”



Sebastian Süßmuth finished his degree in Business Administration at Bonn-Rhein-Sieg University of Applied Sciences in 2013. Before taking part in the seminar, he saw himself primarily as a media consumer. That had changed by the time the seminar was over: “After taking a closer look at the different products,” he says, “I realised that you don’t have to be a journalist in order to be a maker of media.”

#### **Bodo Hombach,**

(\*1952) served as the state party chairman of the SPD North Rhine-Westphalia (NRW) from 1979 to 1991 and was a member of the NRW state parliament in the 1990s. Hombach entered federal politics in 1998 when he was appointed Federal Minister for Special Tasks and Head of the Federal Chancellery under Gerhard Schröder. From 2002 to 2012 he was the managing director of WAZ Media Group. Today Bodo Hombach is President of the Bonner Akademie für Forschung und Lehre praktischer Politik (Bonn academy for the research and teaching of practical politics).

## » give and take

Doing something worthwhile, taking on responsibility, and trying out new things – this is what motivates **Larissa Finder, Lisa Rützel** and **Amir Haddad** to serve as mentors for first-semester students. All three mentors agree that our society would not function without the contribution of volunteers who are willing to donate their time and effort. Their view is reflected in each of their lives. Lisa Rützel has long been active in the Protestant Church, Larissa Finder works for the Malteser emergency services, and Amir Haddad works in BRSU's Departmental Council.

First-semester student **Eva Herzog** experienced the benefits of mentoring first-hand and she now plans to become a mentor herself. "I want to pass along my experience next year," she says. BRSU creates an atmosphere of collegiality and mutual support. "The professors all know us and we know the students in the different semesters, so there's a positive atmosphere and a strong sense of community," say the mentors. Their recommendations? The ideal university, they say, would provide more financing for student projects and promote university-wide communication – from the president to first-semester students.



## Learning the language of innovation

### First graduates of the Technology and Innovation Communication Master's programme

#### Prize awarded for Innovation Journalism

Germany's first Innovation Journalism award was presented for the first time in the fall of 2012. The prize awards 3,000 euros each to two outstanding media stories that have investigated the impact of economic, technological, political or social innovations on society. 145 stories were submitted for consideration by the jury, which includes renowned journalists such as 3sat moderator Gert Scobel. Initiator of the Innovation Journalism award is Andreas Schümchen, BRSU Professor of Journalism.

In the fall of 2012 the first graduates of the Master's programme in Technology and Innovation Communication left BRSU with their degrees in hand, and with bright prospects for the future. Indeed, media experts who are also well-versed in technology and business innovations are rare in Germany.

The three-semester Master's programme, nicknamed the TIK-Master, is an innovation in itself, bringing together innovation and communication like no other university programme in Germany. In courses such as "Marktkommunikation" (market communications) or "Prognostik, Szenarien, Folgenabschätzung" (prognostics, scenarios, impact assessment), the students develop a deep understanding for the complexity of innovation processes. This requires not only technical expertise, but also a firm grasp of political, economic and social issues.

The TIK-Master is ideal for aspiring PR specialists, who want to take on leadership roles in the communications industry. "Our Bachelor programme in Technical Journalism/PR has an excellent placement rate across Germany," emphasise programme directors Professor Uwe Braehmer and Professor Michael Krzeminski, "so we believe that the job prospects for the Master's graduates are outstanding."

Innovation Communications students at the Bonn-Rhein-Sieg University of Applied Sciences are on the pulse of the latest breakthroughs in their respective areas of expertise and can also engage in scientific research themselves. In February 2012, TIK students took part in Germany's first conference on Innovation Journalism titled "Neu, gut

besser? – Innovation als Thema in den Medien" (New, good, better? – Innovation in the media), organised in part by BRSU Journalism professors Andreas Schümchen and Katharina Seuser.

➔ [www.innovations-journalismus.de](http://www.innovations-journalismus.de)  
(in German only)



# Rheinbach adds new academic programmes

## Economic Psychology and Analytical Chemistry

The winter term 2012/13 marked the start of two new academic programmes at BRSU's Rheinbach campus: the Bachelor in Economic Psychology and the Master in Analytical Chemistry and Quality Assurance.

Economic Psychology investigates an area that remains highly relevant to business success: human economic behaviour. Armed with this knowledge, economics/business psychologists often land positions in the private sector in human resources or marketing. The curriculum of the new Bachelor programme consists of three main pillars: psychology, economics and methodology, which includes basic courses such as statistics and ethics. "I'm very pleased with the support I get from the teachers," says Economic Psychology student Albiruni Raushanfikri from Indonesia. "Everyone in the programme is motivated, friendly and respectful of others." Students conduct joint research projects in small groups, which also contributes to the positive and productive atmosphere.

Master's students in Analytical Chemistry and Quality Assurance are also very positive about their new programme. Many of them praise the practical, hands-on focus of the programme and the highly dedicated lecturers. The coursework, which is taught in both German and English, combines techniques for detecting chemical compounds with quality assurance. Successful graduates of the programme are in great demand in the food and pharmaceutical industries, among others. Prerequisite for the Master's programme are high grades from a Bachelor degree in Chemistry or Forensic Science.

Bachelor in Economic Psychology (in German only):

➔ [www.wir.h-brs.de/wirtschaftspsychologie.html](http://www.wir.h-brs.de/wirtschaftspsychologie.html)

Master in Analytical Chemistry and Quality Assurance:

➔ [http://fb05.h-brs.de/MSc\\_Analytische\\_Chemie\\_und\\_Qualitaetssicherung.html](http://fb05.h-brs.de/MSc_Analytische_Chemie_und_Qualitaetssicherung.html) (in German only)

### What do the students say?

Strong reviews for the Master's programme in Analytical Chemistry and Quality Assurance:

- Strong emphasis on lab courses
- High degree of practical and career relevance
- Highly relevant, "real world" lecture material; highly competent professors
- Size of programme manageable, not too large



## Focus on social responsibility

### Institute for Social Innovations promotes the foundation of socially-engaged companies

#### Students advise students

What is the best way to organise my studies? How can I study most effectively? These are questions that higher-semester students are best equipped to answer. In the Department of Electrical Engineering, Mechanical Engineering and Technical Journalism (EMT), the older students act as mentors and pass on their experience to first-semester students. Students get together regularly to discuss questions and problems related to academic life. Taking the mentees "by the hand" is not necessarily the goal of programme. "Our goal is to help the first-semester students become self-sufficient," explains BRSU staff scientist Regain Böhm, who initiated the mentoring programme.

How do I brush my teeth? How do I set the table? For autistic children, simple tasks such as these can often seem impossible. In 2012, a group of students in the Department of Business Administration founded a company that provides educational videos for parents of autistic children. The videos, which are meant to be watched by the children and parents together, are designed to teach children simple tasks.

"We are currently building a network in 16 different African countries, with the goal of addressing some of the social problems there."

Christoph Zacharias,  
Professor for Entrepreneurship and  
Social Business and Director of the Institute  
for Social Innovations (ISI)

The company was formed as part of a practice-based project under the direction of Christoph Zacharias, BRSU Professor for Entrepreneurship and Social Business and Director of the Institute for Social Innovations (ISI). Founded in 2012, the ISI focuses on the business and economic aspects of social responsibility. "This is about market-based solutions to social problems – problems which otherwise don't get solved," explains Christoph Zacharias. "Our goal is to generate solutions in the form of entrepreneurship."

#### Nationwide research and teaching network

Together with the seven universities within the Hochschulgründernetzwerk Cologne (university network to promote entrepreneurship), institute director Zacharias is also organising events in which students focus on various issues related to social responsibility. "Our modules and projects are currently in the planning phase," says Zacharias. "We are working together to develop a nationwide research and teaching system." One of the goals is to establish a partnership with the Social Impact Lab in Berlin. Zacharias is also planning international projects for the ISI: "We are currently building a network in 16 different African countries, with the goal of addressing some of the social problems there," says Zacharias. "One of the issues we will consider is whether social enterprises can be internationalised."

#### Additional information:

Discussion on social innovations:  
(Facebook account required)

➔ <https://www.facebook.com/groups/lse.gruppe/?ref=ts&fref=ts>

Institute for Social Innovations:  
(in German only)

➔ <http://isi.h-brs.de>

## A careful merger

### Two faculties for business economics grow together

2012 marked the end of an era for students and staff of the respective business economics departments in Sankt Augustin and Rheinbach. When the Bonn-Rhein-Sieg University of Applied Sciences was founded in 1995 as a product of the Bonn-Berlin compensation settlement, two separate departments for business administration were established – one at each campus, one on each side of the Rhine. In 2012, BRSU's Office of the President declared the official merger of the former departments 01 and 04. While the two programmes remain in place at their respective locations, the Office of the President expects to see a unified, coherent programme structure in the near future. The new department has been given until 2016 to gradually carry out the delicate integration process. During the transition period, the department will be led jointly by Business Administration professors Dirk Schreiber and Klaus Deimel.

“Both departments have always performed very well in evaluations and every semester the number of applicants is significantly greater than the available spots, so on both campuses admissions is based on limited availability (numerus clausus),” says Dirk Schreiber, one of two Vice-Deans of the new department. “The challenge is to maintain the high level of quality after the merger and, in the best case, even raise the bar.” Over the course of two workshops in May and December 2012, department staff developed ideas on how to align the structures of the two departments.

The goal of the merger is to improve both teaching and research over the long term. Vice-Deans Dirk Schreiber and Klaus Deimel agree: “Everyone should be involved and integrated into the restructuring effort – the Office of the President, the departments and of course the students as well.”



#### “Economics Talk”

As of January 2012, the BRSU event series “Economics Talk” provides a discussion forum for the very latest business and economics topics. At least once per semester, the Economics group in the Department of Business Administration invites an established expert to take part in a discussion with members of the university community and general public. At the first “Economics Talk” held 23 January 2012, Jürgen Matthes from the Cologne Institute for Economic Research talked about the sovereign debt crisis and rescuing the euro.

➔ <http://wiwi.h-brs.de>  
(in German only)

## “An outstanding project” Intercultural experience in Ethiopia

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BRSU students had the unique opportunity of taking on the role of a teacher thanks to the university collaboration with Agro Technical and Technology College (ATTC) in Ethiopia. The two BRSU Mechanical Engineering students Lukas Waberzeck and Michael Schmitz spent two months in Ethiopia at ATTC, which is funded by the Menschen for Menschen Foundation (MfM). They shared their knowledge with students and teachers and worked on their Bachelor thesis – the development of a friction testing system, with which automobile industry parts and components can be tested. “The Ethiopians are incredibly motivated, enthusiastic and interested,” says Lukas Waberzeck. “They contributed many good ideas to our project.” The partnership

with ATTC gives students in Sankt Augustin the option of spending their internship semester in Ethiopia – students like Lukas Schulte, who spent four months in Harar.

### Companies finance stay abroad

Responsible for the partnership with ATTC is Elvira Jankowski, BRSU Professor for Mechanical Engineering in the Department of Electrical Engineering, Mechanical Engineering and Technical Journalism (EMT). Along with BRSU, ATTC and the MfM Foundation, the private sector also plays an important role in the partnership. “In the future I would like to get even more companies involved in

*Teaching, learning, laughing: Elvira Jankowski and Manfred Bretz (front, left and right respectively) made quick friends with their Ethiopian colleagues.*





supporting our students and helping to make international knowledge transfer possible,” says Jankowski. “Students in Germany and Ethiopia both benefit enormously from the intercultural experience.”

The automotive supplier GKN in Lohmar, Germany and the engineering services provider RLE in Cologne are already on board. GKN defined the topic of the Bachelor thesis and, together with RLE, financed the stay in Ethiopia for the three BRSU students. Michael Schmitz is very grateful for the opportunity: “It’s an outstanding project that helped me really understand what kind of support is needed and actually makes a difference in the country.”

*Learning in a team: Mechanical Engineering student Lukas Schulte passes on his know-how*



Professor Jankowski also travelled to Ethiopia and ATTC in 2012, where she and BRSU colleague Manfred Bretz shared their didactical know-how with 24 ATTC instructors. “We taught new teaching concepts to the instructors so that they can start to move beyond the conventional teacher-centred classroom approach,” explains Jankowski. Jankowski and Bretz received the BRSU Innovation Prize in 2012 for their Ethiopia project (more on the Innovation Prize on page 74).

“The Ethiopians are incredibly motivated, enthusiastic and interested. They contributed many good ideas to our project.”

Lukas Waberzeck,  
Mechanical Engineering student

*Two students gathered around a homemade grill*





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## Space for spirit

### Handbook on architectural psychology for architects and their clients

“Instead of poring over countless brochures with sample homes, home-builders should spend more time thinking about what they truly need for their own sense of well-being.”

Marc Ant, Professor of Business Psychology

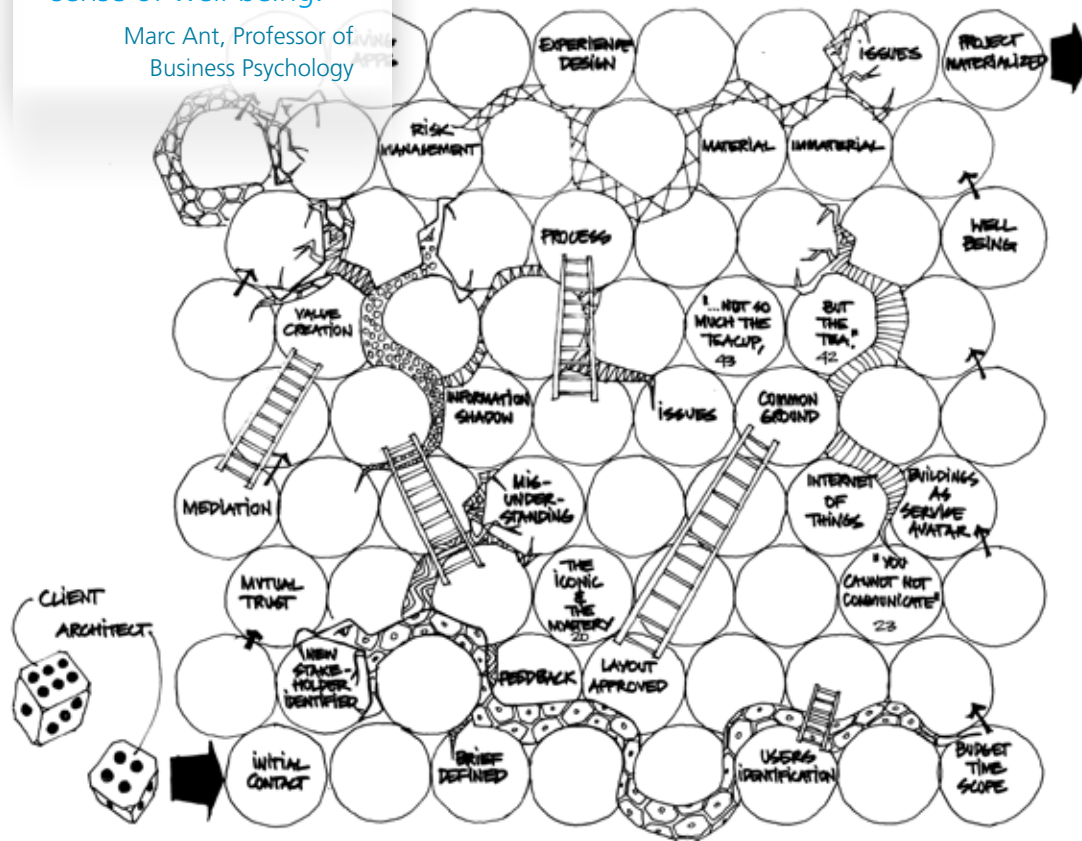
A child does not necessarily need a room the size of a basketball court. But when children do have that much space, they will often create “cover” – a space that they can retreat to, such as a tent or a makeshift cave under their desk. Yet when people decide to build a house, they rarely consider the emotional needs of their individual family members.

Architects need to improve their communication

This should come as no surprise. Psychology, after all, very rarely plays a role in construction planning. “But it should,” says Marc Ant, Professor of Business Psychology at Bonn-Rhein-Sieg University of Applied Sciences. “Instead of poring over countless brochures with sample homes, home-builders should spend more time thinking about what they truly need for their own sense of well-being,” says Ant. And architects, he says, need to improve their communication with their clients.

For the 2012 Architecture Biennale in Venice, Ant collaborated with architect Rodolphe Mertens and design expert Sylvain Cottong, both from Luxembourg, on an exhibit entitled “Encountering Architecture.” Visitors were invited to take a seat, have something to drink and read a letter written by an architect to a new client. In the letter, the architect explains the role of both the architect and the client in the planning process. Architects, for example, should no longer assume the dominant role of an orchestra conductor. Instead, they should act as a mediator. They should take seriously the needs of their clients and present them with all of the options they have to meet these needs.

Mertens, Cottong and Ant conduct workshops on improving architect-client communication and are also collaborating on an architectural psychology handbook intended as a guide for both architects and their clients.



# Contract research for beginners

## Innovation vouchers bring BRSU together with the private sector

With special innovation vouchers, the state of North Rhine-Westphalia is helping small and medium sized companies to develop their new ideas. Considered an admission ticket to some of the country's the best research labs, the vouchers provide companies with a grant subsidy anywhere from 5,000 to 10,000 euros. The goal of the vouchers is to help companies minimise the risk of their R&D investment. Universities, of course, benefit from the vouchers as well. "It's an opportunity for us to come into contact with companies who may be working with universities for the first time," says Dr. Udo Scheuer, director of BRSU's Centre for Science and Technology Transfer. "This can often result in longer-term collaborative partnerships."

BRSU has already realised eight innovation-voucher collaborations. One of them is led by Professor Alejandro Valenzuela from the Department of Electrical Engineering, Mechanical Engineering and Technical Journalism (EMT), who is developing network monitoring software for syscontrol, a building automation specialist based in nearby Königswinter. Syscontrol provides automatic monitoring solutions for various building functions, such as air-conditioning, lighting and building access. The software, which was developed in collaboration with BRSU, monitors the activities of these individual functions and stores the data in an online database. A specialist with access to the database can then respond to any disruptions early on and initiate corrective measures as needed in order to avert a device or system failure.

Professor Roustiam Chakirov, also from the EMT Department, is collaborating with another company, Nolden Regelsysteme, which manufactures temperature controllers for the plastic processing industry. On behalf of Nolden Regelsysteme, BRSU has developed a concept study for a new slide-in controller. "These tend to be smaller projects, but it's an opportunity for BRSU to establish a relationship with these companies and to demonstrate what BRSU is capable of," says Scheuer. Some of the collaborations, such as the one with Nolden Regelsysteme, have already resulted in larger follow-up projects.

### Business Psychology

As of the winter term 2012/13, the Department of Business Administration is offering Business Psychology as an official programme of study. Over the course of six semesters, 60 students will cover the basics in the fields of psychology, business administration and scientific methodology. Additional information on the Business Psychology study programme can be found on page 21.

## Innovation for SMEs

### Federal Ministry of Economics and Technology funds three IT projects

#### Big plans for visualisation

Interactive architectural plans, fully accessible virtual worlds, or the high-precision simulation of the human body – all involve the visualisation of information, one of today's most exciting fields in computer science. The interdisciplinary research focus area of Visual Computing investigates and grapples with the challenges of visualisation, which often requires a tremendous amount of computing power. The Institute of Visual Computing was officially launched and opened in September 2012. Its goal is to strengthen collaboration across BRSU and to generate public enthusiasm for research in this field.

➔ <http://vc.inf.h-bonn-rhein-sieg.de/ivc>

The Bonn-Rhein-Sieg University of Applied Sciences is involved in three projects funded by the Central Innovation Programme for SMEs (ZIM). ZIM is a Federal Ministry of Economics and Technology programme designed to support the innovative strength of SMEs in Germany. According to the Chamber of Industry and Commerce, companies value the programme for its openness to topics and technologies as well as its non-bureaucratic approach. All three ZIM projects are housed in BRSU's Institute for Visual Computing in the Department of Computer Science.

#### Virtual interior design

Is this wallpaper right for the living room? Are these tiles right for the bathroom? These can be very challenging questions in the early stages of building a house. In an ideal world, home-builders would be able to experience their home even in the planning and design phase. BRSU's "Interactive, virtual, realistic sample rendering" project (IVAB) is working to turn this idea into reality. IVAB is developing a

technology that will allow home-builders to project a virtual room onto a wall. Users can then "install" different virtual wallpapers or flooring materials to scale and according to actual lighting conditions.

The highly realistic simulation does, however, require a great deal of computing power. Fortunately, project researchers under the guidance of project coordinator Professor André Hinkenjann have come up with a practical solution. Together with the Institute of Human Factors and Technology Management (IAT) at the University of Stuttgart and private sector companies Softwareparadies GmbH & Co., Systemlösungen KG, and pdv-systeme Sachsen GmbH, the team is using multiple computers to deliver the processing power required. Thanks to their joint efforts, those difficult home design choices may soon be a thing of the past.

For a project overview:

➔ [www.inf.h-brs.de/IVAB.html](http://www.inf.h-brs.de/IVAB.html)



## Networking with smartphones

A trade fair is the perfect place for networking with potential business partners. It's a place where buyers come together with service providers and talent scouts come together with young professionals and other job seekers. But especially at large trade fairs, the search for the right person can involve a tremendous amount of effort. The goal of the PlaSMoNa project ("Platform for the standardised combination of web 2.0 technologies, navigation and smartphones for social applications") is to make it easier to bring people together in these kinds of situations.

Together with project partner tarent solutions GmbH in Bonn, the PlaSMoNa research group, led by Prof. Dr. André Hinkenjann, is developing technologies for locating smartphones in indoor spaces. The technologies combine geolocation with social networks such as XING. This makes it possible for a web designer at a trade fair, for example, to conduct a targeted search for a company looking to realise a web project. With the help of the smartphone, the designer might also see that he is already connected with the company through XING, which helps establish trust and, at the very least, helps break the ice for the first meeting. Another interesting application for PlaSMoNa technology is shopping centres. Here, merchants can send shoppers messages on their smartphones with information on up-to-the-minute sale offers. Data privacy plays an important role in this application. Only with the user's approval, for example, can restricted information, such as location, be made available.

For a project overview:

➔ [www.inf.h-brs.de/en/PlaSMoNa.html](http://www.inf.h-brs.de/en/PlaSMoNa.html)

## Training under realistic conditions

Today, machines and facilities are very often operated using so-called "stored program control" systems (SPS in German). After initial programming, the machines and facilities run automatically until an operator intervenes. As part of the "SimuBridge" project, Professor Rainer Herpers and his team are developing simulations specifically for facility monitoring systems, which recreate and visualise monitoring functions under realistic conditions. Lag times, latencies and other discontinuities in a facility's individual components are monitored just as they would be in a real situation. Examples of SimuBridge applications include the automatic control of traffic signals, industrial reactors, and the filling of silos.

The project was conceived as a learning platform for trainees and apprentices, especially in the area of electrical engineering and mechatronics. Trainers can use SimuBridge to create training exercises. This allows trainees to immediately see the effect of their programming on the machine or facility without the risk of damage to an actual machine. The simulator can be configured individually or expanded as needed. Researchers also want to introduce SimuBridge in schools as a way to generate interest in technical disciplines among school-age students.

Research focus on Visual Computing:

➔ [www.h-brs.de/en/visual\\_computing.html](http://www.h-brs.de/en/visual_computing.html)

Institute of Visual Computing:

➔ <http://vc.inf.h-bonn-rhein-sieg.de/ivc>



## » research and development

In 2002, Professor **Edda Tobiasch** left Harvard University and headed to Rheinbach. Her goal was to put her stamp on BRSU's new programme of study in Biology and to bring together the two worlds of research and teaching. Tobiasch brought with her two of Harvard's guiding principles – world-class research and internationality – and a desire to establish these principles at BRSU. In her lab "Genetic Engineering and Cell Culture", Tobiasch's vision is already becoming reality. In 2012, she advised four doctoral candidates

from different countries and at least three international doctoral candidates will join her team in 2013. Promoting young scientists is a top priority for Tobiasch, and her commitment to them continues to pay off. Her students regularly receive prestigious academic awards. World-class research at universities of applied sciences is by no means a given, which is why Tobiasch would like to see BRSU acquire the right to award doctorates. "That would make it easier to recruit top people from abroad," she says.





## Lying eyes

### Researching the effects of gravity on sensory organs

#### Travelling at zero-gravity

Rainer Herper's world stood on its head back in February 2012 when he took part in one of the DLR's parabolic flights over the Atlantic. As part of the experiment, a converted Airbus flew 31 parabolas, each of which allowed the subjects on board to experience 22 seconds of zero-gravity. Researchers from the German Sport University Cologne tested whether acoustic stimuli could be used to minimise stress or nausea under zero-gravity conditions. The results of the experiment are currently being evaluated and analysed.

Older people often experience dizziness when they walk down a set of stairs – possibly because they are deceived by their own sensory perception. “When we get older we start to trust our eyes more than our sense of balance, which can lead to unnatural posture and a feeling of dizziness,” explains Rainer Herpers, Professor in BRSU's Department of Computer Science.

#### Experiments with artificial gravity

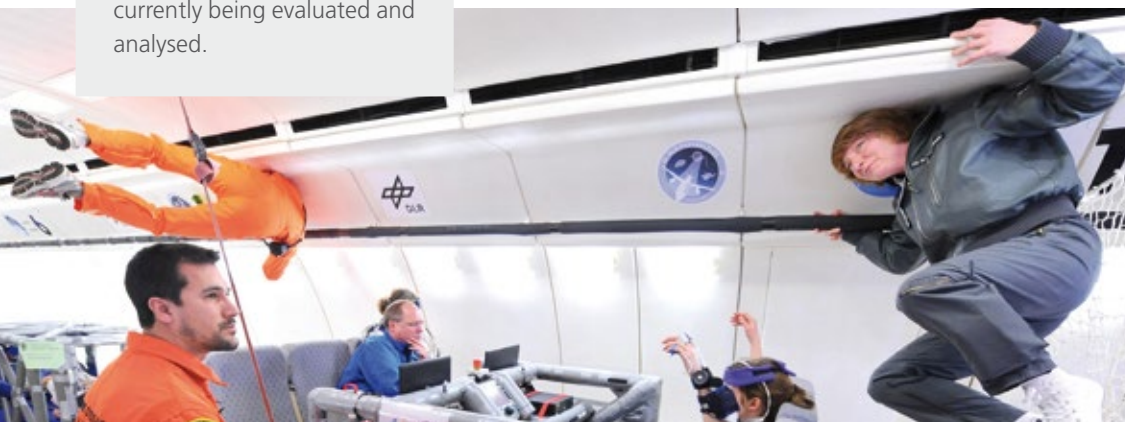
Herpers and his colleagues from York University in Canada are researching spatial perception and how external influences can cause this to change. We know that gravity plays an important role in our own spatial perception of ourselves, in particular our sense of up and down. In 2012, the researchers had the opportunity to conduct experiments under artificial gravity conditions using the Short Arm Human Centrifuge (SAHC) at the German Aerospace Center (DLR).

The subjects lay themselves flat on one of four platforms, which then rotated like a carousel. The centrifugal force was in the direction of the subjects' feet and when the speed of rotation was increased, subjects had the sense that they were standing vertically. Subjects were told to watch a screen above them which displayed the letter “p”. The letter continually rotated to become the letter “d” and then “p” again. At varying speeds of rotation, subjects were asked to say whether they saw a “p” or a “d”. The experiment showed that the subject's perception of the letter depended very much on what they perceived as being “up”.

“The goal is to understand when and why people rely on their different senses,” explains Herpers. “At slower rotational speeds, people do indeed rely on their visual perception, but once a certain level of gravitation is reached, the sense of balance begins to take over.” The findings are relevant for the development of virtual worlds, for example, where many people experience dizziness.

The SAHC at DLR:

➔ [www.dlr.de/me/desktopdefault.aspx/tabid-1961/2779\\_read-14523/](http://www.dlr.de/me/desktopdefault.aspx/tabid-1961/2779_read-14523/)



# Safely across the water

## Technologies to prevent terror attacks

Ferries ply the waters of rivers, lakes and oceans all around the world. Today in Germany, approximately 850 ferries are in operation, transporting roughly 18 million people each year. Many of these passengers drive their car on to the ferry – and this presents a significant security challenge. With terrorists always looking for new targets, ferry operators today are also forced to consider how to ensure the safety and security of their passengers. Cars, after all, cannot simply be x-rayed like luggage at the airport.

### Detecting explosives in vehicles

As part of its VESPER Plus project, BRSU's Safety and Security Research Institute is researching technologies that can be integrated into everyday ferry operations. The project is being funded by the German Federal Ministry of Education and Research ("Research for Civil Security" framework programme). The research team led by Safety and Security Research Institute director Professor Peter Kaul is investigating methods for detecting improvised explosive devices, such as home-made car bombs. One solution involves "wipe tests", which ferry personnel can administer to detect concealed explosive devices. Crew members can use a special cloth to wipe the vehicle surface and then analyse the sample using a mobile device. Kaul's team is also working on sensor technology for the ferry cabin, which can register the odour emitted by explosive substances.

The new technologies are designed to minimise disruptions to everyday ferry operations. "Ferries need to load and unload quickly to ensure their profitability," says Peter Kaul. "As soon as a government declares a higher security threat, the International Ship and Port Facility Security Code (ISPS-Code) takes effect in the EU. Passengers, vehicles and fer-



ries are then subject to increased monitoring, which leads to significant delays in the ports – a burden for operators and passengers alike." Kaul's project is coordinated by the Fraunhofer Institute for Communication, Information Processing and Ergonomics (FKIE) in Wachtberg outside Bonn, and involves collaboration with several partners, including the Technische Universität Braunschweig, the Institut für Sicherheitstechnik/Schiffssicherheit in Rostock (institute for security technology and marine safety), and the Scandlines shipping company.

BRSU's Safety and Security Research Institute online:

➔ <http://isf.h-brs.de/en/>

## Competing machines

### Research team develops new robotics competitions

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Machines have been kicking goals since 1997, which is when the first football world cup for robots, the RoboCup, was held in Japan. Today, robot competitions involve more complex tasks, such as household chores or assisting with emergency rescue operations. The DARPA Grand Challenge – a kind of motor rally for robot vehicles – has been held in

the US since 2004 and, more recently, the DARPA Robotics Challenge was created as a way to promote innovation in robotic technology for disaster-response operations. “These kinds of competitions are by no means just fun and games; they truly drive innovation in science,” says Gerhard Kraetzschmar, Professor for Autonomous Systems at BRSU. “The robot developers not only exchange the latest ideas, but also test these ideas in a deployment situation. A by-product of these events is the interest and enthusiasm they generate among the public.”

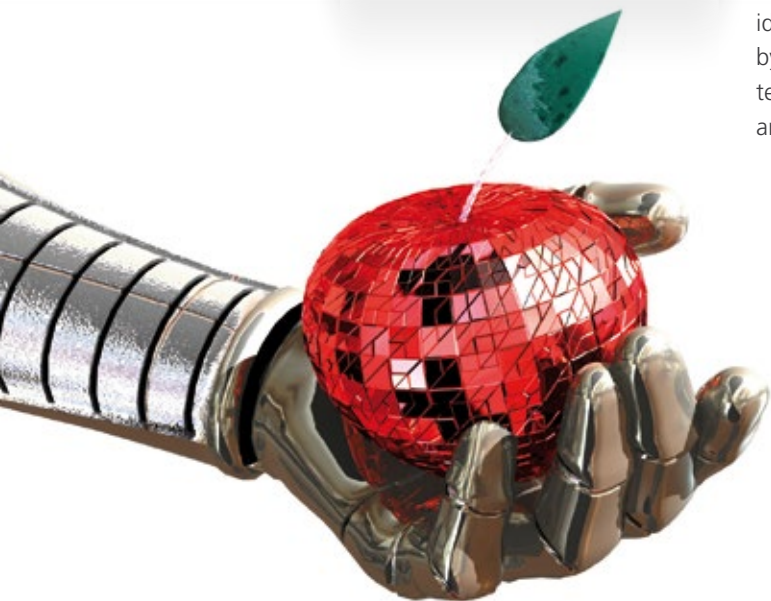
“Robotics competitions are by no means just fun and games; they truly drive innovation in science.”

Gerhard Kraetzschmar,  
Professor for Autonomous  
Systems

Developing robots is by no means the exclusive domain of American and Japanese engineers. European robotics experts are conducting cutting-edge research as well, and the EU wants to promote this research with its RoCKIn project (Robot Competitions Kick Innovation in Cognitive Systems and Robotics). The idea behind the project is to use European robotics competitions to improve the comparability of research findings and, at the same time, to increase public awareness for the innovative strength of European robotics. A team comprised of several European universities and companies has been awarded project funding and includes the BRSU working group led by Kraetzschmar.

#### Robot sets the breakfast table

The competitions focus mainly on household chores or common working-world tasks that have yet to be mastered by today's robots. Setting the breakfast table, for example, requires that a robot be able to grab plates from a stack or take knives out of the utensil drawer. Another example challenge involves a common warehouse task: robots receive items delivered on a conveyor belt and need to prepare them for shipping. For competitions such as these, Kraetzschmar's team is creating test environments which will be presented for the first time at the RoboCup 2013 in Eindhoven. Kraetzschmar hopes that the new competition will draw participation from international private-sector companies along with universities and research institutes. “The companies can send their junior employees to the competition and promote themselves as employers,” suggests Kraetzschmar.



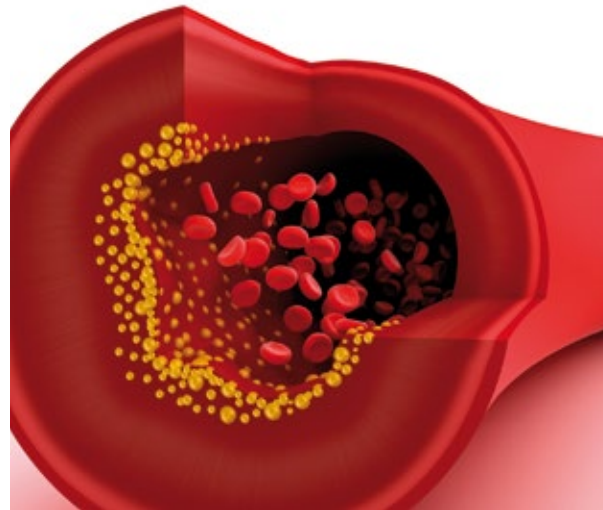
## Award-winning research

### Working with companies to understand the early mechanisms of atherosclerosis

It's rare indeed that judges for the FHprofUnd programme ("Research at Universities of Applied Sciences and Companies") award projects with 97 out of 100 points. But this was the score received by BRSU Biology professor Edda Tobiasch and her research team for their project "Mechanismus und Modell der Atherosklerose" (mechanisms and model of atherosclerosis). As a result, the project received 600,000 euros in funding from the German Federal Ministry of Education and Research.

The researchers are investigating the early mechanisms of atherosclerosis – a fatal disease which involves the accumulation of blood lipids, thrombi, connective tissue and calcium deposits on the walls of blood vessels. "Patients sometimes go decades without noticing anything, but this can lead to thrombosis, heart attack or stroke," says Tobiasch. These consequences of atherosclerosis are the most common cause of death in the industrialised world.

Obesity is a major risk factor. Fat cells release adipokines, which in turn activate the endothelial cells that line the interior surface of blood vessels. This process eventually leads to the inflammation, the formation of plaques and, ultimately, to stenosis, the narrowing of the blood vessel. Today, the stages from the formation of plaques through to stenosis are well understood, but the earlier stages remain a mystery.



Using biomaterial, Tobiasch's team is building a model that, on the molecular level, functions like human arteries. "This gives us a realistic in-vitro system, which we can use to investigate the early stages of the disease," says Tobiasch. Project partners include the Technische Universität Dresden and the biotech company Lionex Diagnostics & Therapeutics in Braunschweig.

#### Graduate Institute awards scholarships

The Graduate Institute at the Bonn-Rhein-Sieg University of Applied Sciences continues to provide financial support to graduates interested in pursuing a doctoral degree. In 2012, five PhD scholarships were awarded with a maximum funding level of 1,200 euros per month. The scholarships are for one year, but can be extended to three years. The institute also organised practical professional development measures, such as training in scientific writing, as well as the PhD Project Exhibition, which gave doctoral candidates the opportunity to present their research to the public.

#### Doctoral scholarships in 2012:

- David Frommholz (M.Sc. Biomedical Science)
- Basma Hansen (M.Sc. Chemistry)
- Nico Hochgeschwender (Dipl. Computer Science)
- Tim Jax (M.Sc. Engineering)
- Sven Seele (M.Sc. Computer Science)



# Campus ▶ 39

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## Faster decision-making

### BRSU takes charge of university construction projects

#### 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 consulted 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, along with a representative from facilities management and a press officer.

Many universities would like to be able to act independently and make fast decisions about new construction or renovation projects. The Bonn-Rhein-Sieg University of Applied Sciences has the opportunity to do just that as part of a pilot project launched by the state of North-Rhine Westphalia in 2007. Since then, BRSU has been handling the planning, construction and maintenance of its buildings and properties.

"Currently North-Rhine Westphalia's building and property management organisation (BLB) not only rents the building to BRSU, but is also responsible for construction and maintenance," explains Reinhard Groth, who is responsible for property management at BRSU. According to Groth, this makes for a very bureaucratic decision-making processes. "Many universities have old and worn-out buildings and BLB administrators are flooded with requests, so it takes a long time to get renovations approved."

"The plan calls for new buildings at the locations in Rheinbach and Sankt Augustin. Detailed planning has begun."

Richard Groth, department head at from Bonn-Rhein-Sieg University of Applied Sciences

#### Autonomy a big advantage

The goal of the pilot project is to determine whether a decentralised approach, i.e. shifting the responsibility for construction projects from the BLB to the university, can improve the situation. Groth is quite sure that it does. "The huge advantage is that it brings the decision-making process under one single roof," says Groth, who adds that

decisions can now be made faster and then immediately implemented. For the first time, sufficient funds will also be available for regular renovation and modernisation projects. "This way we can maintain the good quality facilities that we have at our various locations," says Groth.

BRSU has already taken over two renovation projects: the expansion of the dining hall at the Sankt Augustin campus and the con-

version of the materials facility into a seminar centre at the Rheinbach campus. "But the most important project is still to come," says Groth. According to the University Development Plan, BRSU needs more space. The current plan stipulates around 5,400 additional square meters. "The plan calls for new buildings at the locations in Rheinbach and Sankt Augustin," says Groth. "Various feasibility studies have been completed and now the more detailed planning has begun." With a total budget of approximately 34 million euros, the construction is expected to be completed in 2016.





## Sun and fun at the BRSU summer festival

International games, cuisine and live music were all part of the BRSU summer festival on June 14th – an opportunity for BRSU teachers, students and employees to expand their horizons. Festival visitors crowded around the booths hosted by the student union (AStA), the departments, the Language Centre and the International Office. In a relaxed atmosphere, many students sought advice on study abroad opportunities.



## The work in the lab was fantastic

### Harvard student and RISE scholarship holder conducts research in Rheinbach

While North America and the UK are favourite destinations for many German university students, the number of academic exchanges in the other direction – to Germany – is comparatively low. A scholarship programme sponsored by the German Academic Exchange Service (DAAD) is working against this trend. As part of the RISE (Research Internships in Science and Engineering) program, students from Anglo-American universities are selected each year to come to Germany to support PhD candidates with their research. In 2012, two RISE scholarship holders came to the Bonn-Rhein-Sieg University of Applied Sciences. One of them was Catherine Gu, who is studying Human Development and Regenerative Biology at Harvard University in Cambridge, Massachusetts. She joined doctoral candidate Yu Zhang and the rest of the team working with Professor Edda Tobiasch, who is researching mesenchymal stem cells and the causes of atherosclerosis.

#### Why did you take part in the RISE programme at the Bonn-Rhein-Sieg University of Applied Sciences?

**Catherine Gu:** It was an opportunity to gain both international and practical experience at the same time. The department and Professor Tobiasch are both focused on stem cell research, which was a perfect match for my major and my own interests.

**Yu Zhang:** I wanted to get involved with supporting and mentoring younger students – to pass on my knowledge and experience to others and help grow their enthusiasm for science. I am also interested in the cultural exchange between the US, Germany and China, my home country.

#### How was it working together?

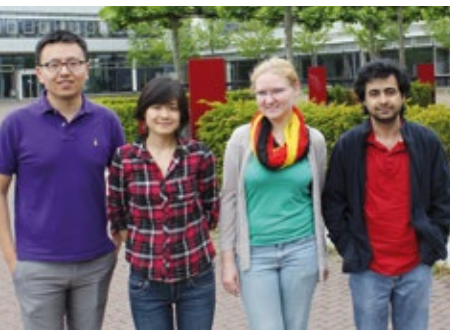
**Gu:** The work in the lab was fantastic! And the atmosphere was very collegial. My mentor Yu Zhang always took the time to explain everything to me in detail. He also made sure to ask how I was doing and if I felt comfortable in Germany.

**Zhang:** We benefitted from having Catherine here. She was very conscientious and brought great enthusiasm to the work. She found her place in the team and even co-authored a poster and a lecture for an international conference in Palermo.

#### Would you recommend RISE?

**Zhang:** Definitely. I learned to be more patient and I learned how important it is to encourage students rather than criticising them. The RISE programme was a very valuable experience for me and I would like to participate again in 2013.

**Gu:** I highly recommend BRSU and the RISE programme. I learned a lot about the subject matter and also learned numerous new techniques. On the personal level, I was really able to enjoy my first visit to Germany in Bonn. I hope that many more fellow students have the opportunity for such a positive experience!



*PhD students and their RISE scholarship holders: Yu Zhang, Catherine Gu, Alexandra Shalakhova and Dilaware Khan (l. to r.)*

### International taste test

“My Taste of Home – My Taste of Wanderlust” was the motto of the photo competition held as part of the “Out of Campus Day” in Rheinbach. Students from the Department of Natural Sciences shared their photos of the foods, aromas or spices that they associate with their home country or a particularly memorable trip. The event was a chance for students to inform themselves on study abroad opportunities and to sample the many culinary treats presented by foreign students. Winner of the photo competition was **Karl Linke**, who associates black tea with Nepal.



## » advising and motivating

For **Ulrike Lubecki** good academic advising boils down to addressing insecurities and encouraging people for their next step. The head of the Central Study Guidance Service and her team advise high school students and professionals who are interested in studying at Bonn-Rhein-Sieg University of Applied Sciences. The office also provides support to students already enrolled at BRSU. Lubecki, who holds a degree in Psychology, enjoys her interaction with prospective and current students from different backgrounds and the events she attends at high schools and trade fairs.

There is plenty of information online about the various courses of study at BRSU, but questions are best and most easily answered in person. To assure top quality advising,

Ulrike Lubecki collaborates with experts both inside and outside the university. "We are in constant contact with the academic departments," the guidance counsellor explains. "It's our way of making sure that we are sending prospective students off in the right direction." She and her team are also in regular contact with other central academic advising teams throughout Germany. "We keep each other up on the latest developments. It helps us make sure the information we pass on is both current and relevant."

As for academic guidance services in the future, Lubecki hopes for greater visibility: "I wish more prospective students would take advantage of our services during the orientation phase."



## Every square foot is guaranteed sustainability

### Green building and property management

#### Sweat credits

As part of a Germany-wide “bike to work” campaign (“Mit dem Rad zur Arbeit”), nearly 40 BRSU employees chose to commute by bicycle instead of car on at least 20 days between June and August 2012. The extra exercise helped the bikers reduce stress, strengthen their immune system, and make a contribution to a healthier environment. BRSU appealed to its employees to take part in the health and environmental awareness campaign, which is organised by AOK, Germany’s largest health insurance company, and the German national bicycling club (ADFC).



Sustainability is the leitmotif of the current University Development Plan, which presents BRSU’s plans and goals through to 2015. But sustainability was already a hot topic at BRSU over a decade ago. In the fall of 1999, the newly opened buildings on the Rheinbach and Sankt Augustin campuses were state-of-the-art in terms of energy technology and regarded as model projects.

The buildings feature numerous energy-saving systems, including extra-thick outer walls for thermal insulation, integrated solar panels, and a photovoltaic installation on the outer façade, which also provides shade for the large window front.

#### BRSU a pioneer

“Back in 1995, during the planning and construction phase, we were already focused on environmental and resource-efficient construction and building operation,” explains Reinhard Groth, Administrative Director for Finance, Purchasing, Real Estate, Building and Construction, Environmental Protection and Safety at Work. This was by no means a standard approach at the time. “This was a showcase project backed by the latest scientific research,” recalls Groth. “In the years that followed, external delegations regularly came to tour the sites.”

Today, BRSU operates and maintains the buildings with a continued focus on resource-efficient processes and alternatives. Rain water is collected on the roof, for example, and then used for toilet flushing. In 2012, this saved more than 2,500 cubic metres of water – the equivalent of

17,000 bathtubs full of water. The heating system, which is programmed according to each room’s schedule, is automatically turned off as soon as windows in the seminar rooms are opened. And the skylights in the hallways not only lend the building a modern look, they also reduce energy consumption by providing ambient light to the otherwise dark inner hallways. This significantly reduces the need for artificial light.

In the 2012, the photovoltaic installation generated an annual yield of 17,000 kilowatt hours – enough to burn a light bulb for 35 years or brew 1.2 million cups of coffee. An ingenious air-conditioning system for the lecture halls uses an underground channel that runs the length of the entire main building. In huge underground pipes, air is cooled in the summer or warmed in the winter and then routed back into the lecture halls. This takes the place of a conventional air conditioning system.

#### Consumption on display

To raise energy consumption awareness among employees and students, BRSU installed large screens at the Rheinbach campus, which display the ongoing energy consumption figures. “I think it’s a great idea to be able to see actual consumption data displayed on these monitors,” says Selina Doulah, who is in her third semester at BRSU and studying Technical Journalism with a focus on environmental journalism. “It shows us where we can still improve efficiency and save additional energy. Energy monitoring should be featured much more often in public buildings.”



The steady efficiency improvements on the part of students and employees over the last several years have resulted in significant savings and allowed BRSU to reinvest in its facilities. In 2012 additional seminar rooms were fitted with the automatic heating system and, today, a solar array is used to produce hot water.

### Sustainability on campus and beyond

Sustainability is also a prominent subject in BRSU's classrooms and the focus of university management activities. The International Centre for Sustainable Development (IZNE) organises a regular working group for the representatives of all university divisions, including the students. Working group participants discuss new ideas for

the Green Campus project, the Teaching for Sustainable Development initiative, as well as current research and consulting projects. Günter Klein, Professor of Environment and Resources, offers a sustainability consultation hour for students planning a paper or internship in this area.

BRSU employees and commissioners continually work to improve the efficiency and sustainability of university buildings through technology upgrades and environmental management techniques. An assessment report is expected to identify additional energy-saving potential and other "green" opportunities. "BRSU very much welcomes suggestions from students and employees," says Professor Wiltrud Terlau, IZNE's founding director.

### BRSU scholarships

The Studienstiftung Hochschule Bonn-Rhein-Sieg (BRSU academic foundation) provides need-based financial support to both German and foreign BRSU students in the amount of 300 euros per month. The scholarship enables students who are not or no longer eligible for BAföG assistance (Federal Training Assistance Act) to continue their studies. For the first time, eight students received scholarship support for the winter term 2012/2013. Students can once again apply for the scholarship for the 2013 summer term.

## We are the Internet

### Forum on Responsibility: Shitstorms, likes and the power of search engines

#### Shitstorm

Shitstorm is the term used to describe a flood of negative opinion on a given subject. Facilitated by the Internet, a shitstorm is often a combination of objective criticism with totally subjective opinion, and can be aimed at certain topics or individuals.

What happens when two bloggers, a university president, an education researcher, and a journalist come together to talk about Web 2.0 and its consequences? The result is an exciting and controversial panel discussion, like the one held on November 14, 2012 entitled “Shitstorms, likes and the power of search engines”. The lively discussion was the first in BRSU’s new panel series “Forum Verantwortung” (forum on responsibility), which regularly highlights current issues.

The inaugural panel discussion focused on the dimension of responsibility. The five panel members argued about identity, anonymity, personal rights, democracy and politics – issues that society, in the analog world, has been grappling with throughout the ages. “In the future, public policy will be inseparable from Internet policy,” said bloggers Markus Beckedahl and Falk Lüke. The two authors maintained that anonymity on Internet is not a bad thing

and that “shitstorms” do not have a negative impact on democratic culture. Dirk Kubjuweit, a writer for *Der Spiegel*, was less encouraging with regard to anonymity. “If someone has something to say, they should stand behind it,” he said.

“The web has completely redefined how knowledge is acquired. Many insights and findings are immediately shared and discussed.”

Mandy Rohs,  
educational researcher, blogger

Dr. Mandy Rohs, educational researcher and blogger, talked about how the Internet has changed higher education. “Internet savvy students come together with teachers, who are accustomed to a more traditional knowledge transfer process. But the web has completely redefined how knowledge is acquired. Many insights and findings are immediately shared and discussed.” “As with any society that is redefining and reorienting itself, enlightenment plays a crucial role – we need an Enlightenment 2.0,” said BRSU President Hartmut Ihne.

The audience asked questions and joined the lengthy discussions on issues such as copyright law, data piracy, data privacy, facebook union, and identity construction. One question remains: Will we ever be able to “disconnect” in the future, or is life without the Internet no longer possible?

#### The panel:

- Markus Beckedahl, blogger, book author, Internet activist
- Falk Lüke, journalist, blogger, book author
- Dirk Kurbjuweit, *Spiegel* correspondent, book author
- Hartmut Ihne, President, Bonn-Rhein-Sieg University of Applied Sciences
- Dr. Mandy Rohs, educational and media sciences expert, blogger



### Students staying fit

The Social Sciences department at the Hennef campus hosted the second annual "Health Day" (Gesundheitstag) in 2012. Workshop participants received practical tips on nutrition, exercise and stress/relaxation. The health check-ups were particularly popular among the attendees.

### Literature room beckons readers

The BRSU library in Sankt Augustin inaugurated its new reading room in October 2012. The new space features the literary works of the Bonn lyricist Karin Hempel-Soos, who died in 2009. Compared to the rest of the library, with its emphasis on academic textbooks and reference works, the reading room features a different "look and feel". Cosy armchairs, reading lamps and 2,500 literary works from various authors invite visitors to sit down and enjoy a quiet read. The library plans to gradually add to the room's book collection.



# Software keeps things on track

## Campus Management and IT Services

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Universities today have to process incredible amounts of data. The entire “student lifecycle” is often saved and available for download. This includes all student data – from enrolment documents to Bachelor or Master’s degree certificates.

To handle its various responsibilities, Campus Management at BRSU relies on special software, such as a programme used to manage grades, elective subjects and matriculation renewals. While a company in Hannover has supplied German universities with a basic version of this software since 1969, many of the actual user interfaces are programmed by the universities themselves. BRSU professors use the software to enter grades, for example, and students can use it to check their status, manage their regional train/bus pass, access certificates, or choose their courses.

### Focus on service

“We will soon have to replace the old software, and we launched the Campus Management and IT Services project in 2012 to prepare for this,” says Manfred Kaul, Professor of Computer Science and Vice President for Teaching, Studies and Further Education at BRSU. Indeed, the day the manufacturer stops providing updates, is the day the software stops being reliable and the problems start.

The new software will be designed for university-wide application, so that not every department needs to develop its own interfaces. The interactive campus management system will feature additional functionalities as well. “Students can be automatically informed when there’s an interesting lecture, when their class needs to be moved or rescheduled, or when other campus events need to be reorganised,” explains Kaul.



## From 0 to 100 in 3.5 seconds

### Students build their own race car

It weighs 205 kilogrammes, has 91 horsepower and accelerates from 0 to 100 kilometres per hour in 3.5 seconds – it's BRSU's very own race car designed and built by the BRS motorsport team. 45 students from various departments, including Computer Science, Electrical Engineering, Mechanical Engineering and Technical Journalism Department, as well as Business Administration, are building a racing car prototype. The interdisciplinary project is purely on a voluntary basis and not part of the students' regular course of study. Each team member brings his or her own knowledge and skills to the table, and the hours of joint effort create a strong bond. Team lead Matthias Metzen studies Mechanical Engineering and has been part of the project since his very first day at BRSU. "In our team we work hands-on, with a very strong practical orientation, but we have the chance to work completely independently – this is a great combination and a ton of fun."

**BRS**   
*Motorsport*



#### Electric instead of conventional combustion

The project is part of the international "Formula Student" design and construction competition. Teams from approximately 520 universities across Europe design and build their own racing car and compete in an annual race on a professional track, such as the Hockenheimring in Germany. "We were very successful in 2012," says Metzen, "it was an extremely strong field, but we still managed to come in 29th out of 78 cars."

The team has big plans for 2013. Instead of a conventional combustion engine, the students want to build a car powered by an electric motor. "This is a real challenge, since there isn't a lot of experience with electric motors out there – not even in the private sector. The steering, for example, is extremely complicated," explains Metzen. Nevertheless, the team's goal is to place in the top 10 among the 40 electric cars competing at the Hockenheimring in 2013.

The BRS motorsport team receives support from local companies, which provide not only financial support, but also parts, components, manufacturing capacity or know-how. This is particularly important when it comes to installing the electric motor. "We're working with over 300 volts, which can be extremely dangerous," explains Metzen. "That's why we get help from experienced engineers, who review everything before we begin assembly."

Metzen is currently writing his Bachelor thesis and, once again, the topic is motorsport. "I developed the aerodynamics for our car to make it go even faster," he says.

#### Alumni reunion

Around 60 alumni gathered in Rheinbach for the Department of Business Administration's 3rd Alumni Symposium. Presentations covered various topics of interest from the professional world, and introduced various MBA programmes in Germany and abroad. Following the symposium, alumni got together with professors for some networking and the start of the European Football Championship.





Take a  
break!



# “How I take a break...”

“Taking breaks is really important for me. After six solid hours of studying, I need to unwind. It would be great if the university had warm places to sit and relax.”

Maurice Stieglitz,  
1st semester student in Mechanical Engineering

“The prayer room is a very important place for me and the other Muslim students here at the university. Even though Muslims are obliged to pray five times a day, I see prayer as a chance to take a time-out from the daily routine. It calms me.”

Judy Mohama,  
5th semester student in Business Administration

“When break-time rolls around I really try to power down. Listening to music helps, or playing a game of Foosball with my friends at BRSU.”



Burak Canseven,  
3rd semester student in  
Business Administration

“I like to take breaks with my friends. I relax best when I have people around me that make me laugh.”



Elena Weber,  
9th semester student  
in Business Administration

“Most of the time I spend lunch break in the dining hall. But I wish I had a place to go where I could really get away from daily grind.”

Andreas Reinshagen,  
3rd semester student in Technical Journalism

“I prefer to take several small breaks instead of one big one. I like to head out into the fresh air for a quick walk around the block to jump-start my brain.”



Carolin Kuhla,  
4th semester  
student in Business  
Administration

“I like to go to a certain room in the library to relax during the break. I’d like to see more spaces like that at the university.”



Doron Heinrich,  
3rd semester  
student in  
Mechanical  
Engineering

## The prayer room

In 2005 the university's Muslim students and staff were given their own prayer room. Islam requires its followers to pray five times a day. The prayer room is therefore a highly-frequented place of devotion and repose.

## The dining hall (Mensa)/cafeteria

Catering is provided through the student services organisation "Studentenwerk Bonn". The dining hall offers a wide variety of meal choices that change daily; the cafeteria sells pastries, rolls, sandwiches and coffee.

## The library

During breaktime students can hit the library and leaf through the most recent newspapers and magazines. The Sankt Augustin campus also has a Literature Room. Set up in 2012, this special space is furnished with comfortable couches and chairs and has shelves lined with works of fiction (see page 49).

## The fishbowls

BRSU has fishbowls – minus the fish. The university has several glassed-in spaces designed to provide students with a place to study, relax, meet friends or surf the Internet. They are aptly nicknamed "fishbowls".

## The courtyard

It never fails – at the first sign of sun, students inevitably flock to the inner courtyard. It's a favourite gathering place to meet, play Frisbee and catch up.

Places of  
pause



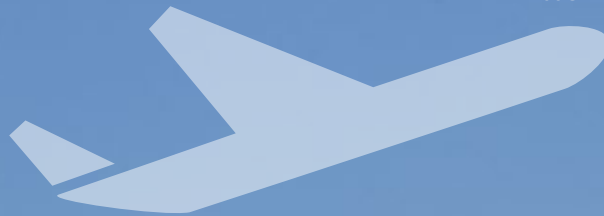
## Meals - and coffee - sold:

	Sankt Augustin dining hall	Rheinbach dining hall
Meals per year	165,000	93,000
Cups of coffee per year	63,500	32,500

# Time-off for professors

Professor **Jens Böcker** spent the 2012/13 winter term on a research tour. During this time the BRSU scientist conducted more than 20 interviews with market experts in Europe, the US and Asia, exploring the latest developments in the telecommunications market. For Jens Böcker the research semester had a two-fold function – as a deep-dive into new areas of interest and as a respite from the university routine. “A research semester yields fresh new ideas for lectures and publications,” says Böcker, summing up his experience. “It’s also important to pursue research opportunities and contribute to making our mark as a research-strong university.”

“Looking back, I wholly recommend my taking a semester dedicated just to research. It’s a great way to put the blinders on and home in on one’s research. The results can be fed right back into teaching. It also provides a healthy dose of distance, allowing you to take a more critical look at processes that have become more or less routine.” **Christoph Wams-er**, Professor for Business Administration, spent a research semester at his home-turf campus in Rheinbach in 2006.





# A dream come true

**Stefan Korol** is Professor for Radio and Television Journalism in the Department of Technical Journalism. He took a sabbatical year in 2010.

## Why did you decide to go on sabbatical?


After ten years of teaching at the university I realised it was time to take stock of both myself and my work. It was time to consider a new take on teaching, work and collaboration with students.

## How did you spend your time?

I travelled a lot, visited old friends – and I learned how to just chill out. At the end of October I made one of my dreams come true by spending four months in Los Angeles. Hollywood in lieu of higher education; summertime in winter. Absolutely amazing.

## And the outcome?

It really did me good. Tuning out, letting go. Realising that the world does not end if I forget to check my mails. The experience has made me more relaxed, also with my students. Radio and TV are my passions, yes, but so are the students. You don't have to get perfect marks across the board in order to become a great journalist. I didn't always see it that way.



# What science says about break-taking

## The study

What is the ideal break? Around 80 test subjects took part in the study on break-taking conducted by BRSU Professor Theo Peters, Professor for Neuroleadership, and his research associate Argang Ghadiri. They measured the subjects' brain activity prior to and after a break, gave them a concentration test and asked them to describe how they felt.

## Break types

- Going all-out on a punching bag for three minutes, or 20 minutes on an ergometer
- Eating so-called brain foods, i.e. food and beverages known to supply large amounts of energy to the brain (e.g. nuts, avocados, blueberries, salmon)
- Sitting in a massage chair for ten minutes with relaxing music in the background
- A "normal" break for the control group

## Preliminary results

All three break types (punching bag, relaxation, brain food) had a positive effect on the subjects' sense of well-being. But as the results show, dosage is key. "I was amazed to see that too much relaxation actually hinders productivity. It's all about finding the right mix," say Peters, summing up the results. Another surprising find is that there is no such thing as the ideal break. Effectiveness varies from person to person. In their next study, researchers plan to find out which type of break is best for whom.

Definitive results will be published soon.

"Even though I know what a near-optimal break could look like, I still catch myself taking 'normal' breaks."

Theo Peters,  
Professor for Neuroleadership

# Taking breaks around the world

Semesters abroad at a partner university is a popular option for many BRSU students. For those who journey to another country, taking breaks is the very best way to get to know a new culture and its people. Going to France? Then do it as the French do at BRSU's partner universities Université de Poitiers and Université Paris-Est Créteil Val de Marne (UPEC), and take a **"récréation"**.

Students from the more northern climes say **"frikvarter"** (Høgskolen i Sør-Trøndelag i Trondheim, Norway) or **"tauko"** (Helsinki Metropolia University of Applied Sciences, Finland).

Head far enough southeast and you'll hear students saying **"teneffüs"** (Istanbul University, Turkey).

At two of the partner universities in Russia – Ufa State Aviation Technical University and Tomsk Polytechnic University – people say **"перемéна"**.

But no matter what the lingo – whether an **"intermezzo"** (Italian), **"přestávka"** (Czech) oder **"pauze"** (Dutch) – the most important thing is how you go about it. Take a look at the page opposite for ideas.

And in Japan, where Professor **Jens Böcker** (page 56) spent part of his research semester at BRSU's partner Kagawa University in Takamatsu, a rejuvenating **"休み時間"** is often taken over a cup of green tea.





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## Hitting the lecture hall before high school graduation

### Inspiring pre-college programme



#### President's Dinner in the lecture hall

University President Harmut Ihne selected an unusual venue for the first-ever President's Dinner – BRSU's main lecture hall. It was here, in the company of representatives from the regional business community, that he drank a toast to partnership and collaboration – past, present and future. Bonn-Rhein-Sieg University of Applied Sciences is looked upon favourably by companies in the region. According to a recent survey, 80 percent of the respondents are not only familiar with BRSU but regard it as a key driver for development in the region. It is President Ihne's intention to nurture these relationships and make them bear fruit.

High school classes can be a drag for some teenagers, especially for those who are under-challenged. For academic high-flyers like these, Bonn-Rhein-Sieg University of Applied Sciences offers a special pre-college programme, which gives them the chance to take college-level courses and examinations while still in high school.

At the end of 2012, BRSU issued the first round of certificates for the programme. "By that time, some of the former 'pre-college students' had already started with their regular studies," says Professor Alexander Asteroth, who heads the project at BRSU and Vice Dean of the Department of Computer Science. "One of them had so many college credits, he was able to start in the fifth semester."

The Deutsche Telekom Stiftung has been funding the BRSU pre-college programme since January 2011. The programme focuses on the so-called MINT courses – maths, IT, natural sciences and technology. Participants who have successfully finished the course work are given college credit that can later be applied once they begin their regular studies.



#### A great alternative

The pre-college programme is geared towards high school students from the immediate region. Proximity is an important aspect, for the budding academics attend BRSU in addition to their regular high school classes.

"The pre-college programme is about establishing contact with the secondary schools," says Asteroth. "It's also about giving gifted and talented high school students in the region the chance to get to know us and realise that BRSU is a great alternative to standard university."

Overview of the pre-college programme at Bonn-Rhein-Sieg University of Applied Sciences (in German only):

➔ [www.fruehstudium.h-brs.de](http://www.fruehstudium.h-brs.de)

*Presentation of certificates: These high school students completed college-level courses while still in high school.*

## Tasty, healthy and as affordable as possible

### Networks in the name of safe food

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Food warnings about dioxin-laden eggs and traces of mineral oil in chocolate-studded advent calendars have consumers rattled. Two networks MeKoTech and Bonn.realis are helping to keep these warnings to a minimum, ensuring safe food while keeping production costs from skyrocketing.

MeKo Tech, an acronym for measurement and communications technology, focuses on the development of new online and offline measurement technologies. The network is also working on linking measurement technology with innovative IT and communication systems in order to improve both in-house and remote quality management. This could also result in improvements in the area of quality communications.

“Two institutes at Bonn-Rhein-Sieg University of Applied Sciences are involved in the initiative – the Institute for Detection Technology and the Safety and Security Research Institute,” says Peter Kaul, Professor for Physics, Statistics and Measurement Technology. “We’re involved because of the technological dimension of food safety. One of the things we’re working on, for instance, is the detection of solvents that have no business being found in foods” Bonn-Rhein-Sieg University of Applied Sciences is also part of the Bonn.realis network, which like Meko Tech is committed to food quality issues. Standing for ‘Bonn Research Alliance of Innovative Information Systems in International Quality Food Chain and Crisis Communication’, Bonn.realis is a cluster of scientific institutions, companies and administrative agen-

cies located in the Bonn, Rhein-Sieg and Ahrweiler regions. Despite its firm base within the region, the network is open to national and international collaboration.

Both networks are true collaborative undertakings. “Businesses and research institutions apply for funding together,” says Kaul. “And as a team, they work together on quality assurance and food safety.”



## More women in management

### CSR project brings women and businesses together

#### Internships abroad

IAESTE (International Association for the Exchange of Students for Technical Experience) assists students in the natural sciences and engineering in finding internships abroad. Bonn-Rhein-Sieg University of Applied Sciences now has its own local IAESTE committee made up of students who provide information and support to their fellow classmates. It is housed in BRSU's International Office.

Official IAESTE website:

➔ [www.iaeste.de/cms/index.php?id=60](http://www.iaeste.de/cms/index.php?id=60)

A shortage of specialists? Not anymore. The women are coming. A corporate social responsibility (CSR) project at Bonn-Rhein-Sieg University of Applied Sciences is bringing small and middle-sized enterprises (SMEs) together with the university's female students. The project involves a semester-long internship at a company, where they are trained in management-level tasks.

The 20 young women from the technical sciences and business are first prepared for their in-company semester. "Part of what we tried to do during this initial phase was to help them articulate their goals, both professional and personal," explains Dr. Thomas Krickhahn, who leads the project together with Simone Matthaai. "They explore the role of relationships in their lives and take a close look at the issue of work-life balance."

#### A chance to demonstrate leadership skills

With the initial preparation period completed, the in-company phase at ten participating SMEs begins in January of 2013. During this time, the students take on their own projects and in the process, develop their leadership competencies. Projects include developing a childcare program in collaboration with other companies and helping a business redesign for barrier-free accessibility.

As Krickhahn explains, SMEs are often hesitant to hire young women. "They are afraid of the hole they leave behind when they decide to start a family." The hope is that once they have proven themselves during the internship, they will have even a greater chance of getting a job offer later on. "At that point, both sides know each other and know each other's needs. Should parental leave come into the picture, the basis is there for them to find a solution that fits - together."

The CSR project, as Krickhahn is quick to emphasise, benefits women and businesses alike. "Companies with young female talents are better positioned for the future," he says. "The businesses that get involved in this project are also living up to their social responsibility, and this helps their image as well."

Information about corporate social responsibility in Germany:

➔ [www.csrgermany.de](http://www.csrgermany.de)





# Tackling complex tasks together

## University administrations complement one another

Bonn-Rhein-Sieg University of Applied Sciences and North Rhine-Westphalia's seven colleges of art and music share the same data protection commissioner. This is just one of many examples where administrative services are offered jointly, making effective use of synergies.

"There's no need to reinvent the wheel. That's why we've joined forces with our partners," says Angela Fischer, who heads the Personnel Management and Legal Affairs section at BRSU. The data protection commissioner is seated at BRSU; deputy commissioners are located at each of the partner institutions. "Administrative responsibilities are growing both in terms of scope and complexity," says Fischer. "Making use of synergies, like we do with this model, simply makes sense." The data protection commissioner, who can now rely on the support of a team, also benefits from the shared service approach. The exchange of information and experience within the team allows them to continually hone and improve their work. This collaborative model has been in place since 2007; in 2012 it welcomed

Steffen Arns as its new data protection commissioner.

In some instances, BRSU renders services against payment. "Our section handles the travel expense accounting for the Hochschule für Musik und Tanz, a performing arts school in Cologne," explains Administrative Director of Finance Reinhardt Groth. The Section for Information and Communication Technology provides data hosting services for the foundation KfH-Stiftung Präventivmedizin, supplying the back-up server for its databases. It also provides an array of IT services for Cologne's university of performing arts, from network administration to special support services.

### Efficient placement process planned

BRSU is also collaborating with the Dortmund University of Applied Sciences and Arts on the so-called "Dialogorientiertes Serviceverfahren", an application processing system. An expansion of the partnership with FH Aachen, Hochschule Niederrhein and TUHH is in the planning stage according to Dieter Zinßer, Section Head for Information and Communication Technology Systems at BRSU. The object of the "Dialogorientiertes Serviceverfahren" application processing tool is to minimise the number of multiple admissions.

"There's no need to reinvent the wheel – that's why we share a data protection commissioner with other universities in North Rhine-Westphalia."

Angela Fischer, Head of Personnel Management and Legal Affairs

### Occupational safety handbook for the natural sciences

There are many areas of research in the Department of Natural Sciences where occupational safety and security plays an important role – whether it's genetic engineering, chemical experiments or protection against x-rays. In response to this, a pilot project has been launched to produce an organisational handbook on occupational safety.

#### Contact person:

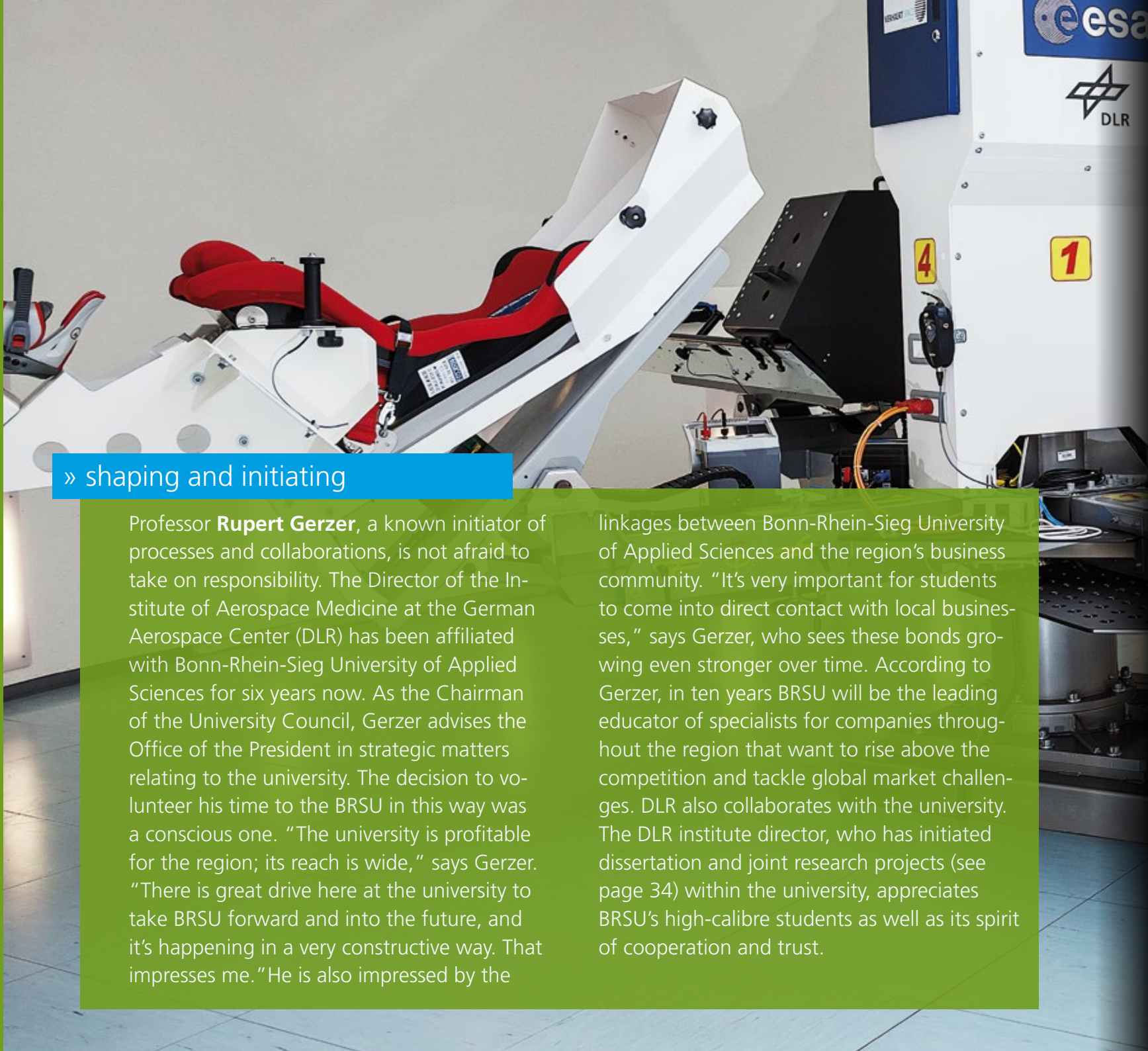
Prof. Dr. Ulrich Eßmann,  
+49 2241 865 592,  
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## » shaping and initiating

Professor **Rupert Gerzer**, a known initiator of processes and collaborations, is not afraid to take on responsibility. The Director of the Institute of Aerospace Medicine at the German Aerospace Center (DLR) has been affiliated with Bonn-Rhein-Sieg University of Applied Sciences for six years now. As the Chairman of the University Council, Gerzer advises the Office of the President in strategic matters relating to the university. The decision to volunteer his time to the BRSU in this way was a conscious one. "The university is profitable for the region; its reach is wide," says Gerzer. "There is great drive here at the university to take BRSU forward and into the future, and it's happening in a very constructive way. That impresses me." He is also impressed by the

linkages between Bonn-Rhein-Sieg University of Applied Sciences and the region's business community. "It's very important for students to come into direct contact with local businesses," says Gerzer, who sees these bonds growing even stronger over time. According to Gerzer, in ten years BRSU will be the leading educator of specialists for companies throughout the region that want to rise above the competition and tackle global market challenges. DLR also collaborates with the university. The DLR institute director, who has initiated dissertation and joint research projects (see page 34) within the university, appreciates BRSU's high-calibre students as well as its spirit of cooperation and trust.





## Actively supporting young entrepreneurs

### The BusinessCampus helps entrepreneurs establish their businesses

In the beginning, there is the bright idea – and then comes BRSU's BusinessCampus to help turn the ideas into successful businesses. The BusinessCampus supports students and graduates who are in the process of launching and building up young companies. Currently the Business Campus supports 40 companies.

Daniel Berndt, Thorsten Raffelberg and Christian Wolf took the plunge and launched [www.guiders.de](http://www.guiders.de), an online portal that allows users to conveniently compare outdoor tour and travel offers. Daniel Berndt came up with the idea of the Internet portal after he himself tried to plan an outdoor trip and had to spend a lot of time and effort trying to find what he was looking for. "I was organising an outdoor weekend for my friends," he recalls. "I found a lot of information on the Internet but it was difficult to compare the individual offers and providers." Berndt began brainstorming about a website that would greatly simplify the process and also allow users to book their tours directly on the site.

*Outdoor experts Daniel Berndt, Thorsten Raffelberg and Christian Wolf (from l. to r.) developed a site for comparing outdoor tours and travel offers.*



Berndt convinced his two partners to get on board and also won the support of his former professor Jens Böcker, who advised the three founders and recommended BRSU's BusinessCampus. At locations in Sankt Augustin and Rheinbach, the BusinessCampus provides entrepreneurs and innovative companies with affordable office space, lab space, and conference/meeting rooms.

The founders of [guiders.de](http://guiders.de) were able to take advantage of the BusinessCampus even though they had graduated from BRSU several years earlier. The BusinessCampus supports both students and BRSU graduates. The university's Institut für Soziale Innovationen (ISI / institute for social innovations), which focuses on teaching for social innovations, also draws attention to the services available.

#### A great deal for start-ups

Guiders.de also received an EXIST start-up grant for one year. The money was a big help, but founder Daniel Berndt says the mentoring was also extremely valuable. "The mentoring support we received from Dr. Udo Scheuer from the BusinessCampus and Professor Böcker over the course of the year was particularly valuable," says Berndt. The founders were able to consult Scheuer and Böcker on a range of issues – from tax questions, to negotiation techniques, to product development strategy.

Although entrepreneurs can stay on the BusinessCampus for up to five years, Berndt and his partners will probably be leaving sooner than that. "guiders.de is doing so well that our office is gradually becoming too small," says Berndt.

# Boosting the image

## Survey on the role of social media

---

A representative survey conducted by a team of BRSU technical journalists confirms the importance of social media in business communications. Nevertheless, many companies still want to learn more about this relatively new field, which is why the Bonn/Rhein-Sieg Chamber of Industry and Commerce (IHK) plans to expand the training services it offers in this area.

As part of the survey, over 550 companies in Bonn and the Rhein-Sieg region were contacted and nearly 130 took the time to answer questions. A third of the companies surveyed do use social media. Most of these companies use Facebook (43 percent). Twitter and Xing come in second place (each at 21 percent), followed by LinkedIn (9 percent) and Google+ (4 percent).

“Our goal was to find out how companies are using social media and for what purpose,” explains Professor Uwe Braehmer, who teaches Project Management and Empirical Methods at BRSU and was responsible for initiating the study with help from the IHK.

### From personnel recruiting to market research

According to the study, companies use social media for four main reasons. First, they are used to strengthen the company’s image. Second, companies use social media to communicate with customers and increase sales. “And the other motivation – which actually surprised me,” says Braehmer, “is that companies want to obtain customer feedback on new products or services, which is like a new form of market research.” The fourth application for social media is to attract and recruit new employees.



Two-thirds of the companies surveyed, however, are not yet active using social networks. Many are put off by what they perceive as a large time commitment. But, at the same time, many companies say they want to learn more about social media. Sixteen percent of the companies, for example, are interested in opportunities for further training. “That is an important result of our study,” says Braehmer, “and IHK wants to respond to this growing demand.”

Results of the study (in German):

➔ [www.ihk-bonn.de/fileadmin/dokumente/News/Die\\_Wirtschaft/Die\\_Wirtschaft\\_2012/09/Dokument/Regionalstudie\\_2012.pdf](http://www.ihk-bonn.de/fileadmin/dokumente/News/Die_Wirtschaft/Die_Wirtschaft_2012/09/Dokument/Regionalstudie_2012.pdf)



## Fun, games and adventure with science

### Popular children's TV programme welcomed into Rheinbach lab



#### Student experience "Frauen@Technik"

Most young women are not familiar with engineering degree requirements or well informed when it comes to career opportunities in engineering. The "Frauen@Technik" event series sponsored by BRSU and the Deutsches Museum Bonn wants to change this. The events have already provided many school children with ideas and inspiration for choosing a career. In 2012, 25 young women took part in the events and informed themselves on engineering degree programmes.

Genetic engineering and chemistry are complex and difficult subjects, especially for kids. BRSU experts got together with the popular children's TV show "Sendung mit der Maus" to make these subjects more accessible and give school students an easy-to-understand look into the world of research.

#### BRSU opens its doors

One of the goals of the classic German TV show "Die Sendung mit der Maus" is to educate children by introducing them to complex topics in a way that is playful and accessible. This is a goal shared by Edda Tobias, Professor for Genetic Engineering and Cell Culture and Margit Schulze, Professor for Industrial Organic Chemistry and Polymer Chemistry, who took part in the TV series' "Türen auf!" programme by hosting an event for children at BRSU.

"It was also about helping the doctoral candidates develop their social skills, so that they learn how to convey information in a way that is interesting and inspiring for children."

Edda Tobiasch, Professor for Genetic Engineering and Cell Culture

Two of these events have already taken place. On two separate occasions, two groups of children – one with 8-11 year olds and the other with 12-14 year olds – came to BRSU. "The young researchers had the chance to take part in various experiments and learned, among other things, how to isolate DNA with bananas," reports Dr. Andreas Pansky, staff scientist in the Department of Natural Sciences.

Like circuit training, the children passed through different stations, each of which included a knowledge test and orientation games, with easier questions and experiments for the younger kids and more difficult challenges for the older kids. The goal of the event was to give the children a first look into the world of science in a way that is fun and entertaining. "It was also about helping the doctoral candidates develop their social skills, so that they learn how to convey information in a way that is interesting and inspiring for the children," explains Tobiasch.

More about the "Türen auf!" campaign (in German only):

➔ [www.wdrmaus.de/enteseite/tuerenauf/index.php5?v=2#v1](http://www.wdrmaus.de/enteseite/tuerenauf/index.php5?v=2#v1)



# Patients from abroad welcome

## Growth market medical tourism

Around 77,000 patients travel to Germany from abroad every year for inpatient medical care. In addition to this, approximately 115,000 patients come from abroad to Germany for outpatient care. And the numbers are growing. In order to prepare both medical and tourism providers in Rhineland for this growing market, the Bonn-Rhein-Sieg University of Applied Sciences has initiated the project "Medizintourismus entlang der Rheinschiene" (medical tourism along the Rhine corridor) in cooperation with the HealthRegion CologneBonn, with funding from the state of North Rhine-Westphalia (NRW) and the EU.

An important component of the project is education and training. Training, on the one hand, for employees from clinics, hotels and service companies on interaction with Arabic or Russian guests. At the same time, doctors, clinic directors and health insurance company representatives from abroad receive training in the German healthcare system. The focus of the project is primarily on the Russian healthcare sector. "More than 100 doctors and staff working in the Russian healthcare industry have already participated in the 14-day training," says Jens Juszcak, project director at BRSU. "Back in Russian they then function as multipliers and promote German medical technology and our hospital management."

Highlight of the training event was the "1. Deutsch-Russische Gesundheitsforum" (first German-Russian health forum) held at the end of September 2012 in Bonn. The international forum was attended by roughly 150 German and Russian medical practitioners along with representatives from Russia's regional health ministries, executives from Russian health insurance and medical technology companies, as well as representatives from industry associations and chambers of commerce. The forum agenda included medical topics as well as management topics, such as process optimisation, organisation, and guidelines for interacting with Russian patients in Germany.

The training and information is also of great interest to German practitioners and industry representatives. "The Russian physicians got to know the hospitals in the region and network with their German colleagues," says Jens Juszcak. "When they're back in their home country and run into a situation where they don't have the necessary equipment or experience to treat their patients, they know who they can contact here. And they can then feel good about sending their patients to us."

So far the training is tailored specifically to Russian medical industry professionals. Beginning in 2013, the plan is to expand the programme to medical professionals from Arab countries. With this in mind, the first planning discussions were held at the Arab Health trade fair together with the German Emirati Joint Council for Industry & Commerce (AHK) in Dubai.

Partner website: HealthRegion Cologne Bonn (in German):

➔ [www.health-destination.de](http://www.health-destination.de)

### IZNE supports mobility concept

A joint project between BRSU and the City of Bonn ("Companies solve traffic problems") wants to bring relief to employees who do daily battle with rush-hour traffic. The project supports Bonn-based companies, government agencies and other organisations in developing and implementing sustainable mobility concepts for their employees. BRSU's International Center for Sustainable Development (IZNE) is a participating partner on the project.







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## Exchange among equals

### BRSU intensifies its involvement in Africa

“The benefit of an extended stay abroad is not so much what we learn about foreign countries, but what we learn about ourselves.”

Roger Peyrefitte (\*1907),  
French writer and diplomat

“It’s a bold project,” says Professor Reiner Clement, describing the Teaching for Development programme initiated by BRSU in collaboration with the Agro-Technical & Technology College (ATTC) in Harar, Ethiopia. Established in 2010 with funding from the Menschen for Menschen Foundation, Clement describes the programme’s salient features: “Teachers receive training, Ethiopian students learn how to help themselves and our students develop intercultural skills while living in a foreign country.” In October 2012, Clement, who is also Vice President for Innovation and Regional Development at BRSU, recognised the two individuals responsible for managing the programme – Professor Elvira Jankowski and Manfred Bretz from the Department of Electrical Engineering, Mechanical Engineering and Technical Journalism – with the University Innovation Prize in the amount of 5,000 euros. The prize motto? “Learning Beyond Borders – International partnerships in teaching, learning and academic exchange.”

Neither Jankowski, who is Professor for Methods of Construction and Quality Engineering, nor Bretz, who directs BRSU’s radio and TV studios, had expected to win such an award. Both were very pleasantly surprised. “It shows that we are on the right track,” says Jankowski. “It’s an award for all involved, especially for the students!”

Several BRSU students, teachers and staff have travelled to Harar since the partnership was established in 2010. They analysed computer networks for weak points, worked with ATTC students and teachers to build wind generators or trained ATTC teachers in didactics and methodology. “The students take on a completely new role there and return to Germany highly motivated and with valuable life experience under their belt,” says Jankowski. The University

Innovation Prize is a plus for the Menschen for Menschen Foundation as well. “This partnership allows us to provide our highly motivated instructors with the most up-to-date technical and didactic know-how,” says Almaz Böhm, Chairman of the Foundation.

Menschen for Menschen Foundation:

➔ [www.menschenfuermenschen.org](http://www.menschenfuermenschen.org)

### Business campus for Ghana

One of BRSU’s international flagship projects is its cooperation with the University of Cape Coast (UCC), BRSU’s partner university in Ghana. In 2012, the two universities came together to establish the Entrepreneurship & Sustainable Economic Development project, which is funded by the German Federal Ministry for Economic Cooperation and Development (BMZ) and the German Academic Exchange Service (DAAD) as part of the University-Business-Partnerships programme.

“The project functions as a kind of pilot project for both DAAD and BMZ, since it establishes a new form of development cooperation,” says Professor Jürgen Bode, Presidential Commissioner for International Projects at BRSU. The goal of the partnerships between universities and industry is to encourage knowledge transfer and strengthen relationships between universities and the private sector. “Companies often need applications-oriented research consulting, and the universities have well-trained, highly motivated and enthusiastic young people with a lot of potential,” says Bode. “We want to help make the connection.”

UCC now wants to establish its own version of BRSU's BusinessCampus, with the goal of strengthening the entrepreneurial skills and business savvy of African students and graduates. This, in turn, creates the basis for small and medium-sized enterprises (SMEs), which are the driver of a strong and stable economy in Germany. "This is not a development assistance project, but a collaboration between equal partners, from which both sides benefit," emphasises Bode. "For German companies, Africa is one of the markets of the future." This view was shared by the 130 international guests of the first annual "Entrepreneurship in Africa: The case of Ghana" conference held in November 2012 in Rheinbach. In 2013, the conference will be held in Ghana.

➔ [www.wir.h-brs.de/Entrepreneurship\\_Africa.html](http://www.wir.h-brs.de/Entrepreneurship_Africa.html)

➔ [izne.h-brs.de/izne/en/home.html](http://izne.h-brs.de/izne/en/home.html)

### First exchange with Namibia

The Department of Social Security Management stepped up its collaboration with the Polytechnic of Namibia, further expanding BRSU's activity in emerging and developing countries. Under the direction of Johannes Mockenhaupt, Professor for Medical Computer Systems, five BRSU students spent two weeks in Namibia in May, followed by a visit to Germany by students from Namibia. This was the first student exchange with Namibia, which concluded with the international symposium "Two Countries, Two Systems – One Idea" at BRSU's Hennef campus.

The symposium focused on topics relevant to the exchange programme, including social security systems in Germany and Namibia and a comparison of transportation and building sectors in the two countries. "This was a once in a lifetime experience for me," says Lisa Hoferichter, Bachelor student at BRSU and participant in the Namibia exchange. "Along with the knowledge gained in my field, I also learned a lot about the culture and mentality of the Namibian people. And with an experience like this, you not only learn about new people and places, but you also begin to see yourself with different eyes."

➔ <http://sozialversicherung.h-brs.de/International.html>

➔ [www.bgrci.de/tolle-ausbildung/start/aktuelles/two-countries-two-systems-one-idea](http://www.bgrci.de/tolle-ausbildung/start/aktuelles/two-countries-two-systems-one-idea) (in German only)



Enjoying the desert: BRSU students together with their exchange partners in Namibia

## International demand

### Master's in Autonomous Systems a strong career move

#### BRSU commits to the Code of Conduct on Foreign Students

Where and how can foreign students get the advice they need? How can they gain enrolment and what kind of academic or language support can they expect to receive? The "National Code of Conduct on Foreign Students at German Universities" is intended to provide answers to questions such as these. By signing the Code of Conduct last year, BRSU has committed to complying with its standards. The "Welcome Centre" in the International Office provides a structure of support for foreign students.

BRSU and the National Code of Conduct

➔ [www.h-brs.de/en/International+Affairs/International+Welcome+Centre/Code+of+Conduct.html](http://www.h-brs.de/en/International+Affairs/International+Welcome+Centre/Code+of+Conduct.html)

Students in the Master of Autonomous Systems degree programme at Bonn-Rhein-Sieg University of Applied Sciences come from all around the world – from Mexico, Pakistan, India, Russia, Canada and Colombia, to name a few countries. Indeed, the international flavour is part of the programme's appeal. "In the first-semester group alone, we have 15 students from 14 different countries," says Paul Plöger, Professor for Autonomous Systems. BRSU has offered the programme since 2004, making it one of the first universities in Germany to offer a Master's degree in Autonomous Systems. The programme is conducted in English.

*Jenny, the BRSU robot*



#### Dual degrees are "in"

Double-degrees are becoming increasingly common, for example in cooperation with the University of New Brunswick in Fredericton, Canada. "In 2013 we also signed a double-degree agreement with the German-Jordanian University," says Plöger, who adds that the Department of Computer Science is currently in talks with two potential partner universities in Russia – in Tomsk and Ufa.

For several years now, the Master of Autonomous Systems programme in Sankt Augustin has been conducting research in the area of robotics. With their international network of contacts and well-rounded training in the areas of artificial intelligence and robotics, graduates of the Master's programme can look forward to many attractive career opportunities. Nonetheless, the interest among male students remains significantly higher than interest among women. This phenomenon remains somewhat of a mystery for Russian doctoral candidate Anastassia Küstenmacher. "The idea that 'boys are better in math than girls' is an idea I heard in Germany for the first time," says Küstenmacher, herself a mathematician. In Russia, half of the degree candidates in mathematics are women. This is something that Professor Plöger and his colleagues are trying to replicate in Germany. "We are constantly working to generate more interest and enthusiasm among young women for robotics and computer science," says Plöger. "Our partnerships with schools are one example of this."

Degree programme overview:

➔ [www.inf.h-brs.de/en/Profile-p-8464.html](http://www.inf.h-brs.de/en/Profile-p-8464.html)

## Icy cold premiere

### Robolympics wins fans from Russia and Germany

Moscow at 30 degrees below zero was the backdrop for the finals of the first German-Russian Robolympics competition, organised by BRSU's Department of Computer Science together with Bauman Moscow State Technical University and Moscow Polytechnic Museum in February 2012. "The event was sponsored as part of the German-Russian Year of Science and was a great success," summed up Frederik Hegger, staff scientist and member of the event's organisational team, who said that many new contacts were made to Russian students, university staff and professors.



*Professor Paul Plöger from Bonn-Rhein-Sieg University of Applied Sciences and Professor Arkady Yuschenko from Moscow State Technical University with Jenny, the robot from Sankt Augustin.*

#### Robots match wits

The competition began with 31 teams from six universities. First-round races took place simultaneously in Sankt Augustin, Saint Petersburg, Ufa, Moscow and Tomsk. The contestants – Lego-NXT-Mindstorm robots each about 20 centimeters in height – carried out various tasks, including driving in a figure-eight pattern, cleaning up Lego pieces or sorting various coloured blocks on a chess board. Six teams qualified for the finals, including both BRSU teams. In the end, the team from Moscow State Institute of Radiotechnics, Electronics and Automation (MIREA) edged out the rest of the field. Second place went to Fernando Morillo, Joschka Rick and Michael Dicke from Sankt Augustin.

Anastassia Küstenmacher, a native Russian and graduate of the BRSU's Master of Autonomous Systems programme, took part in the competition as a staff scientist and interpreter. She helped make sure the German and Russian contestants could communicate with each other and that Russian children could attend the public competitions and cheer on the contestants.

The second place finishers and their robots:

➔ [www.b-it-bots.de/Home.html](http://www.b-it-bots.de/Home.html)

#### Rules for new robot league established

In 2012, 22 students and staff scientists attending BRSU's International RoboCup@Work Camp established the format and rules of the new RoboCup@Work league. As part of the camp, participants developed software infrastructure that will serve as the basis for future competitions.

RoboCup@Work  
competition:

➔ [www.robocupatwork.org](http://www.robocupatwork.org)

## Dual degree in Biology

### Life Science degree programme prepares students for the international job market

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Nina Ishorst knew early that she wanted to spend a semester studying abroad. “If you study at a partner university, you get full credit for all your coursework there,” says Ishorst, “so it’s very well organised here at BRSU.” Another benefit was the degree Ishorst earned from the HAN University of Applied Sciences in the Netherlands. “It shows that I was not only abroad, but that I successfully graduated,” says the 24-year old Ishorst, who is currently pursuing a Master’s degree. BRSU Biology Professor Annette Menke is coordinator of the dual degree programme. “A dual degree demonstrates drive and determination much more convincingly than a traditional study abroad experience,” says Menke. “It shows that the students have worked hard and well enough to earn a degree from two different universities.”

“If you study at a partner university, you get full credit for all your coursework there. It’s very well organised at BRSU.”

Nina Ishorst, student in the Department of Natural Sciences

According to Menke, students return from the experience feeling like Europeans. They expand their focus on the German job market and begin applying for jobs abroad as well – and with great success. “When they return from the Netherlands, they can suddenly imagine spending some of their future living and working in a foreign country,” says Menke.

#### Much greater independence

An exchange is always about opening yourself up to new things. For Nina Ishorst, it took time to get acclimated to her new surroundings in the Netherlands. “The students there work much more independently and develop their own laboratory methods and work schedules,” says Ishorst. The Biology programme at BRSU includes a significant amount of practical experience, but, according to Ishorst, it tends to follow the classic approach of lecture, seminar and exercise modules, followed by an internship or field work.

“In the Netherlands this traditional structure does not apply anymore,” explains Professor Menke. The focus is on project work, according to Menke, which is less about memorising facts and more about learning skills that then facilitate the knowledge acquisition process. For Ishorst, this approach to learning was very helpful. “Especially for the Bachelor thesis,” recalls Ishorst, “which was very much about planning one’s own project, time management and having to learn new methods on your own.”

Programme overview:

➔ <http://anna.h-brs.de/HAN.html>

The Life Sciences programme at HAN:

➔ [www.han.nl/opleidingen/bachelor/en/life-sciences/vt/](http://www.han.nl/opleidingen/bachelor/en/life-sciences/vt/)

*Project work in the Netherlands: Students in the natural sciences study and conduct research at the HAN University of Applied Sciences in the Netherlands.*



### For students with wanderlust

As of the winter term 2012/2013, BRSU is now offering a new language certificate. "International Engineer" is an additional qualification intended for engineering students and available to all Bachelor candidates in Electrical Engineering and Mechanical Engineering. For students looking to go abroad, this is an opportunity to complement their academic work with intercultural/language skills, and improve their chances of landing a job in a foreign country or international company.

➔ <http://emt.h-brs.de/InternationalEngineer.html>  
(in German only)

## » development and dialogue

For professors **Katja Bender** and **Winfried Polte**, the essence of international work is the willingness to confront difference, accept difference and the ability to find the common ground. Bender and Polte have worked together since 2012 in BRSU's International Centre for Sustainable Development (IZNE). They are a strong team and, not surprisingly, see eye-to-eye when it comes to their views on development cooperation. "Above all else, development cooperation means responsibility – in the sense that we respect viewpoints and cultures that are different from our own, and that we are mindful of the impact of our actions on others," says Katja Bender. For

Winfried Polte, teamwork is another key component. "Trust in your colleagues and employees is essential to fulfilling this responsibility." At IZNE Bender and Polte seek dialogue with students and facilitate discussions on socio-political topics. Katja Bender researches the causes of societal and economic change in developing countries. Her current focus is on the establishment of social security systems in developing countries. Winfried Polte often integrates his professional experience into his teaching, sharing insights from his time at the DEG, one of Europe's largest development finance institutions.





## At home in the world

### More and more students want to go abroad – Handbook serves as a guide

#### Digital training as part of ERASMUS

Developing digital switches is not an easy task for students. The switches need to be designed, simulated and then verified all on the PC without the use of any actual hardware. With support from ERASMUS, Bonn-Rhein-Sieg University of Applied Sciences is working together with universities in Belgium, Norway and Slovakia on an innovative Internet-based educational platform designed to facilitate the development process. Actual test set-ups (“labs”), which are controlled by reconfigurable hardware (FPGAs), can be programmed and re-programmed by students through the Internet and then directly tested via live-streaming.

➔ [www.edivide.eu/](http://www.edivide.eu/)

Sandra Peters wanted to develop her intercultural skills, improve her English and start making contacts internationally, so it was a natural choice for her to seek an internship abroad. “Finding the internship was not easy,” recalls the 27-year old Peters, who is studying Business Administration at BRSU. But her efforts were rewarded. She received a PROMOS scholarship (“Programm zur Steigerung der Mobilität von deutschen Studierenden”) and began work in January 2012 in the Sales division of the Hugo Boss Group in New York, where she stayed until the end of July.

“The time in New York really made a lasting impression on me,” sums up Peters, who believes she has become more open-minded person and freed herself of prejudices. “For all its highs and lows, I am really grateful for the experience,” says Peters. Peters has written a handbook about her semester abroad that she hopes will serve as a guide for her fellow students.

Peter’s efforts to promote the international experience is right in line with one of BRSU’s main goals. “We want as many of our students as possible to take part in an international exchange,” says Dr. Vera Schneider from the International Office (IO). Along with the DAAD-sponsored PROMOS Scholarship, another very popular programme is ERASMUS, the flagship among EU programmes for higher education and vocational training. But demand still exceeds supply. “There aren’t enough scholarships to meet the demand,” says Schneider. All the more encouraging, she says, that more and more students are going abroad even without scholarship funding. Students in the areas of economics, business administration and natural sciences are especially well represented in the PROMOS and ERASMUS

programmes. In 2012, the UK was the most popular destination among biology students and Ireland was a favourite among students of economics and business administration.

#### Study-Buddy programme expanded

Another element of BRSU’s internationalisation strategy is to attract more and more foreign students to Bonn. The Study-Buddy programme is designed to help foreign students make the transition to Germany as quickly and easily as possible. The programme began in 2006 with 18 students in the departments of Natural Sciences and Business Administration. In 2012 it was expanded to all departments. “Today about 100 BRSU students serve as Study Buddies,” says International Office director Dr. Roland Weiß. And the number continues to grow. According to Weiß, students are increasingly interested in building their intercultural skills as part of their education. “The programme benefits both sides,” says Weiß. “Participants are challenged to overcome their inhibitions and many develop an interest in going abroad themselves.”

#### BRSU attracts doctoral candidates

Obada Alaqtash travelled from Jordan to Germany to pursue graduate study. He was awarded an EU scholarship and a spot in BRSU’s Master of Autonomous Systems graduate programme. “After completing my Bachelor degree in Jordan I spent a good half year looking for funding to support a Master’s degree abroad,” recalls the 25-year old Alaqtash. “I finally landed on the BRSU website and learned about ERASMUS Mundus II and Avempace.”

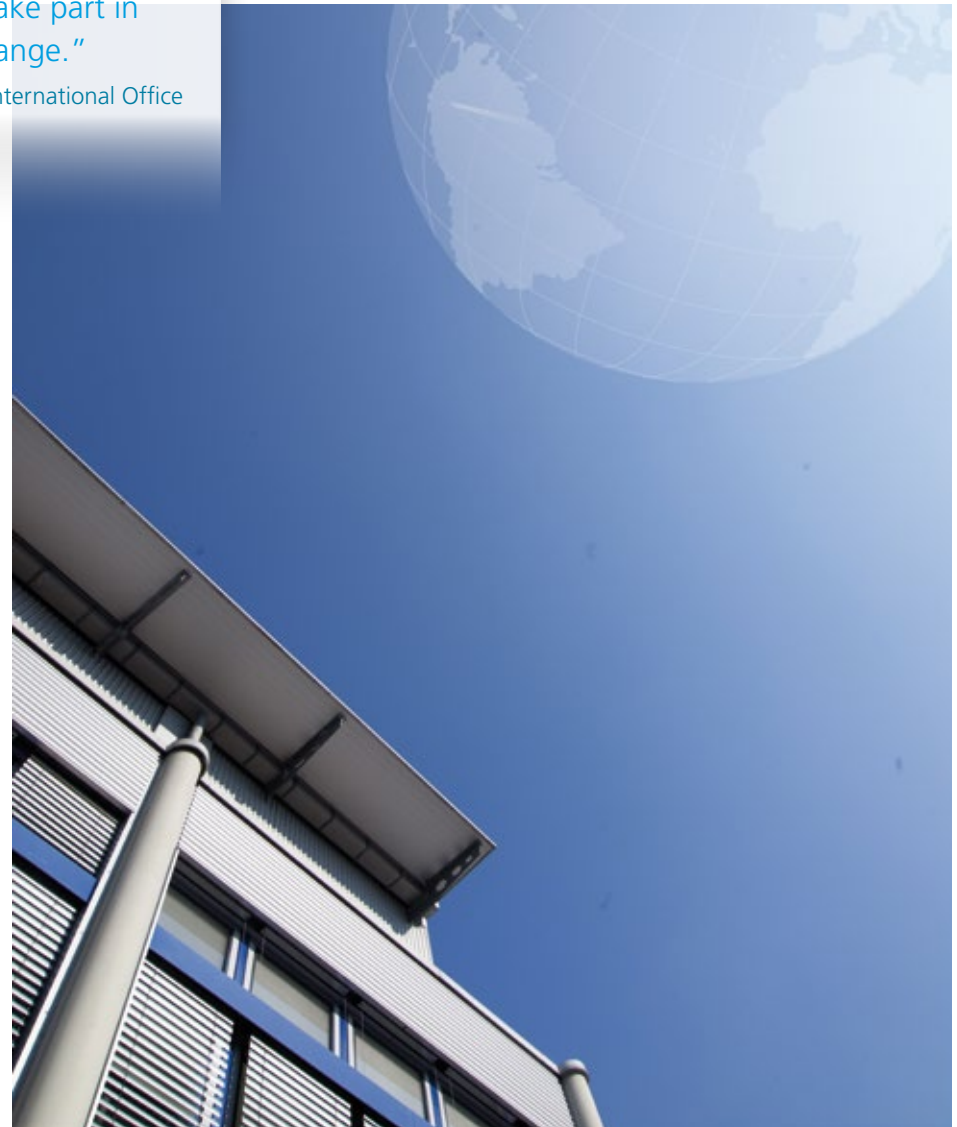
ERASMUS Mundus II is an EU excellence programme that supports the development of mobility networks between universities in the EU and third countries. Scholarships are awarded for university students and staff at all levels, from Bachelor and Master's candidates, PhD candidates and postdocs, through to professors and university administrative staff. Avempace is managed under the direction of the Technische Universität Berlin and covers third countries Syria and Jordan.

The Avempace consortium consists of 23 universities and institutions from around Europe, Syria and Jordan. "As a university of applied sciences, it's a real distinction for BRSU to be included in this group, especially given the fierce competition today," says Professor Rainer Herpers, who is responsible for the project at BRSU. The fact that not only Bachelor and Master's students, but also doctoral candidates apply to the Bonn-Rhein-Sieg University of Applied Sciences shows "how compelling and attractive our research is," says Herpers.

Alaqtash, for one, is pleased to have been selected by the consortium, and especially pleased to be at BRSU, his university of choice. "The international flair is terrific," says Alaqtash. "After completing my Master's degree my plan is to pursue a PhD so that I can one day help my home country Jordan to further develop its scientific know-how."

"We want as many of our students as possible to take part in an international exchange."

Dr. Vera Schneider, International Office



## Exchange that pays

### Summer schools generate interest in a semester abroad

“Most people who take part in a summer school want to go abroad again as soon as possible,” says Nadine Fröbel, responsible for international projects in the Department of Computer Science. “After the summer exchange, participants then want to conduct their internship semester at a foreign university so that they can gain additional international experience.” Fröbel’s department at BRSU maintains close ties to two Canadian partner universities in Toronto and Fredericton, and each summer about 20 Computer Science students visit the two cities and work together with their Canadian counterparts. “Another benefit of the exchange is that the summer intensive course is credited with the full six credits,” adds Fröbel. “It’s one of the unique selling points of our partnership with the Canadian universities.”

#### First summer school in Russia

A new partnership was established recently with the Ufa State Aviation Technical University in Russia. In 2011, 15 young men and women from the Russian city of Ufa came to Bonn. The following year, in July 2012, 10 students from Sankt Augustin travelled to Ufa for the first summer school held in Russia. The BRSU team studied neuroinformatics, spent time in the Russian labs and raved about the terrific support they received in Ufa. The second summer school session in Ufa will take place in 2013.

➔ [www.ugatu.ac.ru/neuroinformatics/](http://www.ugatu.ac.ru/neuroinformatics/)

#### One city, two continents

In July 2012, six BRSU Bachelor students in the Technical Journalism/PR programme travelled to Istanbul for a three-day summer school. The Technical Journalism/PR programme in Sankt Augustin and the Faculty of Communication at Istanbul University organise the summer school each year and take turns hosting it in either Turkey or Germany. “Summer school in Istanbul is an unforgettable experience,” says Andreas Schümchen, who accompanied the 14 participants to Turkey. Professor for Journalism at BRSU, Schümchen talks about the stunning contrasts in Istanbul – the combination of Ottoman history and 21st century modernity. “The hospitality of the fellow teachers and students at Istanbul University is wonderful,” adds Schümchen, “and has already resulted in many lasting

#### Heading abroad

There are plenty of international exchange opportunities for BRSU’S Business Administration students as well. Way back in 2001, Professor Oded Löwenbein created a summer school, which today bears his name. The exchange programme is a partnership between the Coastal Carolina University in South Carolina (USA) and Bonn-Rhein-Sieg University of Applied Sciences.

“Summer school in Istanbul is an unforgettable experience.”

Andreas Schümchen, Professor of Journalism

friendships.” Christiane Reher, a third-semester student in the Technical Journalism programme, was also very enthusiastic about her summer school experience. “Istanbul’s location between the two continents was particularly impressive,” she recalls. “I never would have thought that

a city could combine such contrasting European and Asian influences!” Reher remembers fondly the many Istanbul University students she met in the workshops and lectures. For Reher, the summer school was a great opportunity to learn about other countries and cultures. “I would definitely take advantage of another opportunity like this one,” she says.

### Building safer robots

It was an international cast of players at the SaSeRos Intensive Programme (“Safe and Secure Robots based on Open Source Software”) held in Spain in April 2012. 67 students and 14 instructors from Finland, Spain, Norway and the Netherlands got together at the to consider how robots can be made safer and more secure using open software. The team included 15 students from the Bonn-Rhein-Sieg University of Applied Sciences’ departments of Computer Sciences and Electrical Engineering, Mechanical Engineering and Technical Journalism. The programme is funded by the European Commission’s Lifelong Learning Programme and coordinated by Professor Norbert Jung from the Department of Computer Science. In 2013 the event will be hosted by the University of Applied Sciences in Espoo, Finland.

SaSeRos:

➔ <http://www.inf.h-brs.de/en/SaSeRoS.html>



*Students from five European countries collaborate on safe and secure robots*



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# Facts and Figures

## As of April 2013

### Programmes of Study

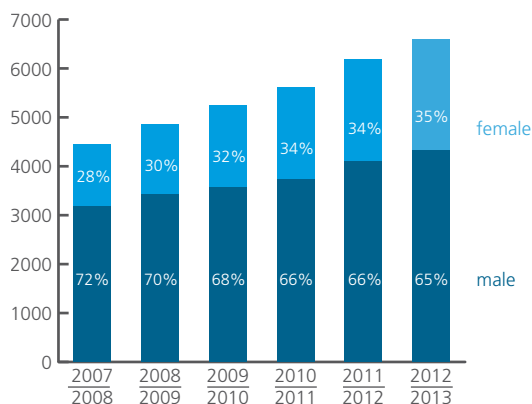
#### Bachelor's programmes

- 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 Management
- Technical Journalism / PR
- Business Information Systems
- Economic Psychology

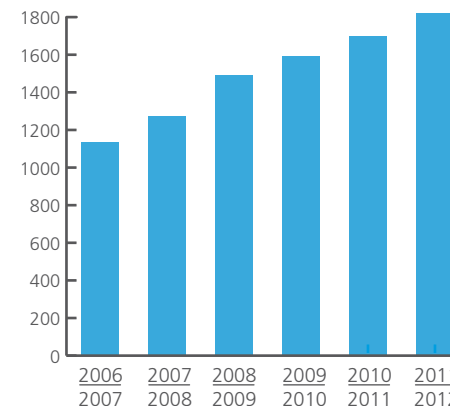
#### Master's programmes

- Autonomous Systems
- Biomedical Sciences
- Controlling and Management
- Electrical Systems Design
- Computer Science
- Innovation and Information Management
- International Media Studies (cooperative)
- Communication Systems and Networks
- Mechatronics
- NGO Management
- Technology and Innovation Communication
- Analytical Chemistry and Quality Assurance

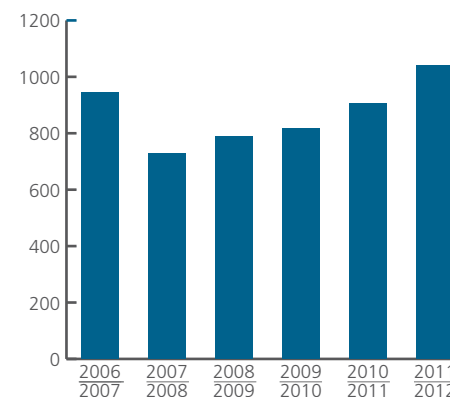
### Number of students



### First-semester students



### Graduates



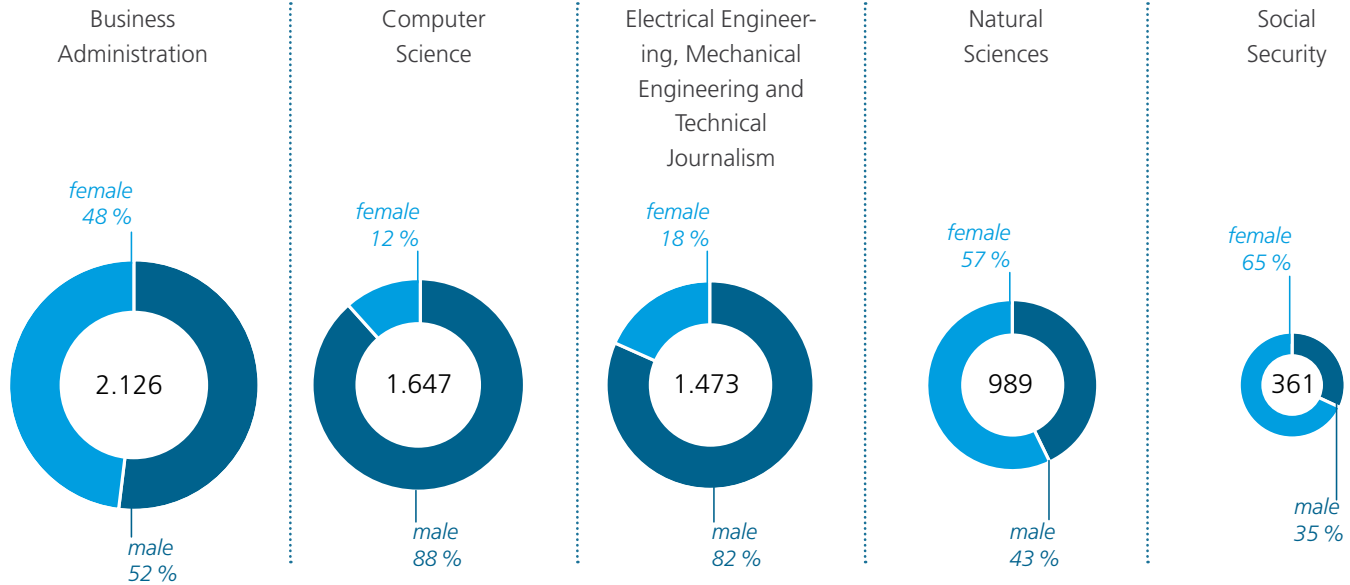
For detailed statistics and data on Bonn-Rhein-Sieg University of Applied Sciences:

➔ [www.h-brs.de/statistiken](http://www.h-brs.de/statistiken)

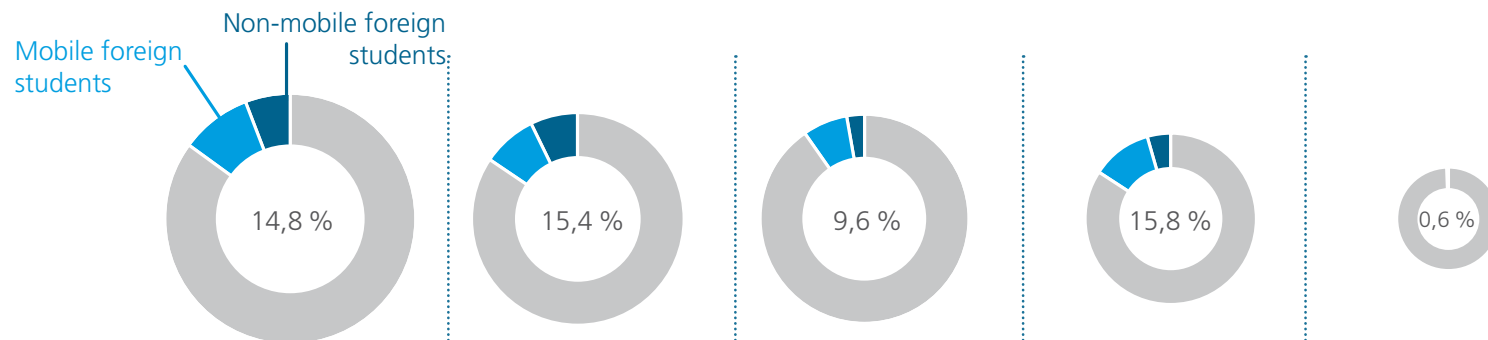


## Students in the Winter Term 2012/2013

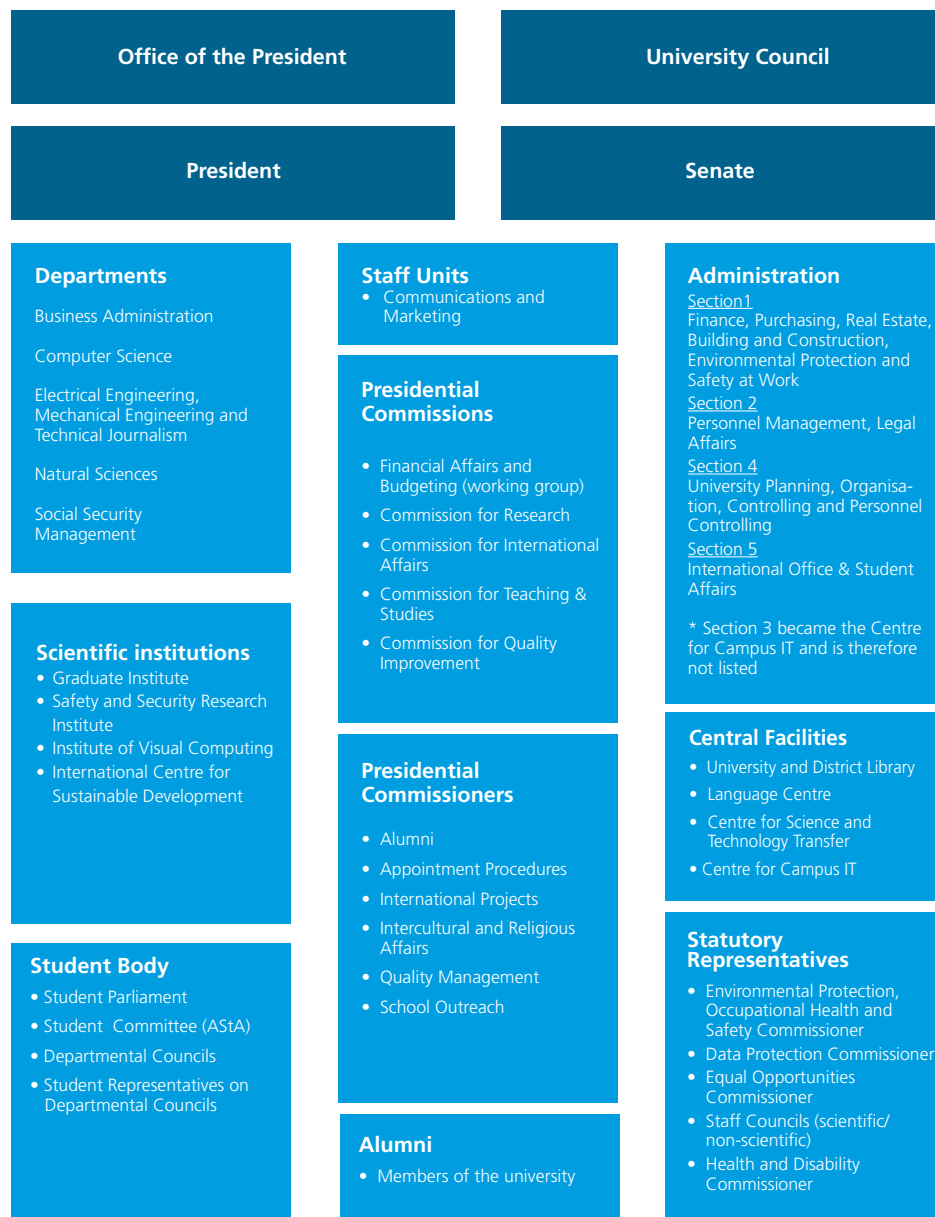
### Students by department and gender



### Percentage of international students in the departments



## Structure of the University



## The 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.

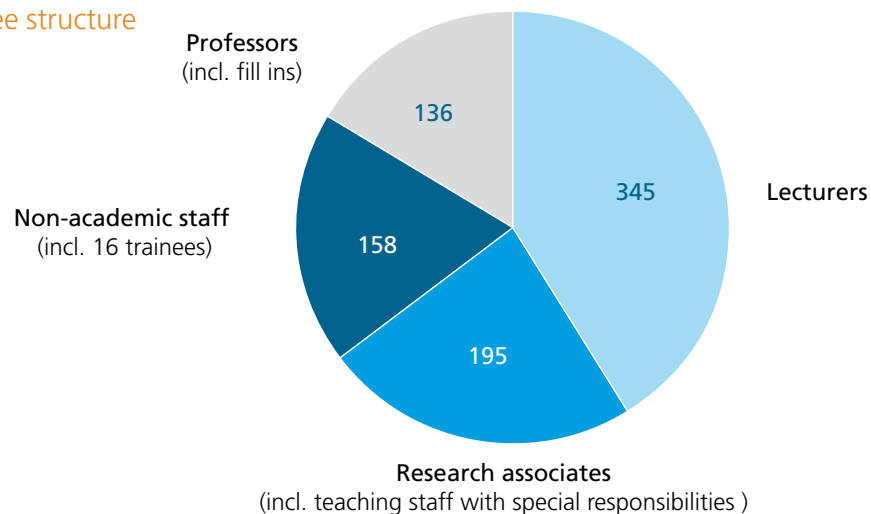
The eight voting members of the University Council are:

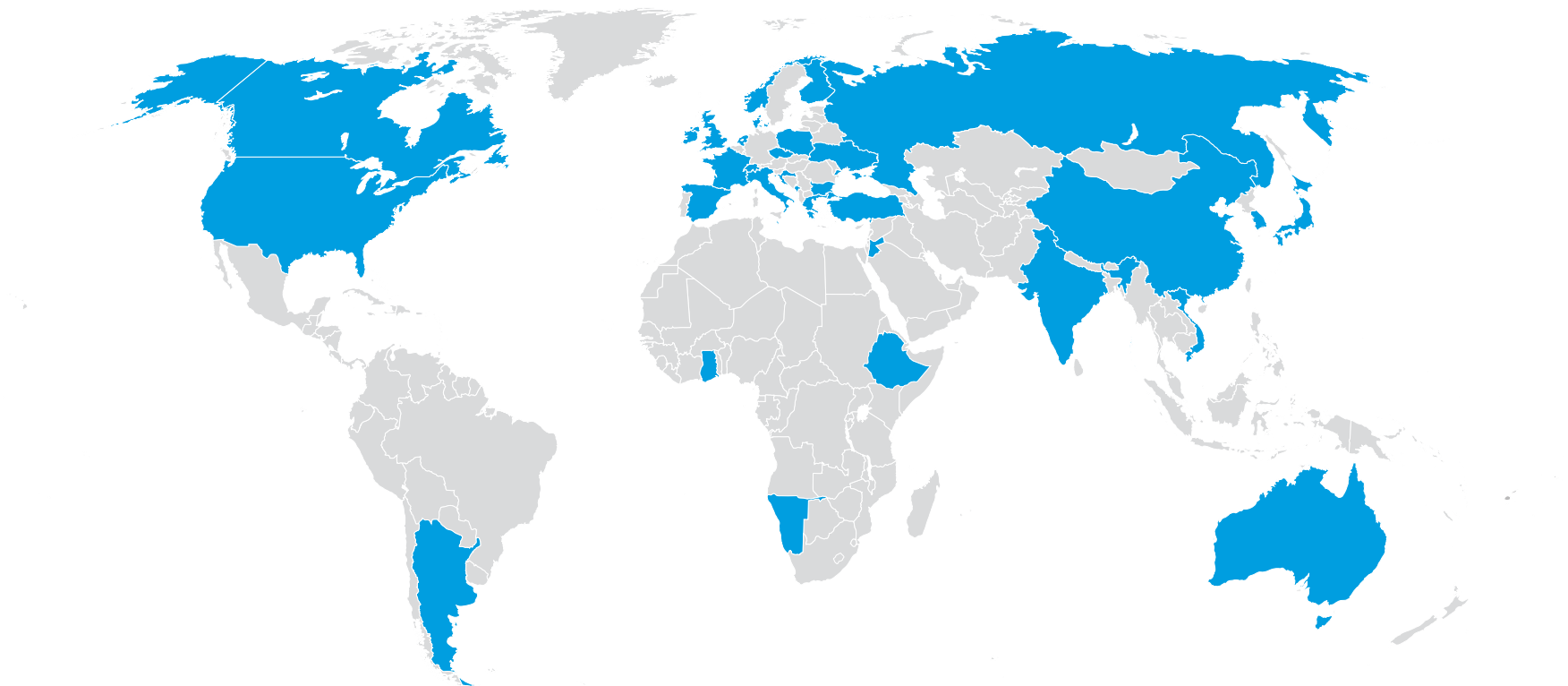
- **Prof. Dr. Rupert Gerzer**,  
Director of the Institute of Aerospace Medicine at the German Aerospace Centre (DLR)  
(Chairman)
- **Prof. Dr. Tobias Amely**,  
Bonn-Rhein-Sieg University of Applied Sciences
- **Prof. Dr. Elvira Jankowski**,  
Bonn-Rhein-Sieg University of Applied Sciences
- **Dr. Eckart John von Freyend**,  
Gebrüder John von Freyend GbR (IW)  
(Deputy Chairman)
- **Dr. Ines Knauber-Daubenbüchel**,  
entrepreneur, Knauber (company)
- **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

## New appointments

March 1, 2012	<b>Prof. Dr. Christopher Volk</b> Professor for Biology, esp. Human Biology/ Histology and Developmental Biology, Department of Natural Sciences	October 1, 2012	<b>Prof. Dr. Margit Geißler</b> Professor for Chemistry, esp. Analytical Chemistry and Chemometry
April 1, 2012	<b>Prof. Dr. Katja Natalie Bender</b> Professor for Economics, esp. Economic and Social Development, IZNE	October 1, 2012	<b>Prof. Dr. Dieter Franke</b> Department of Natural Sciences, Professor for Engineering, esp. Energy Efficiency/Regenerative Energies, Department of Natural Sciences
June 22, 2012	<b>Hon.-Prof. Dr. Winfried Polte</b> IZNE	October 1, 2012	<b>Prof. Dr. Jürgen Apfelbeck</b> Professor for Fundamentals of Engineering and Information Electronics, Department of Natural Sciences
June 28, 2012	<b>Hon.-Prof. Dr. Claudia Warning</b> IZNE	November 1, 2012	<b>Prof. Dr. Welf Wawers</b> Professor for Fundamentals of Mechanical Engineering, esp. Engineering Design/Machine Elements, EMT Department
July 1, 2012	<b>Prof. Dr. Richard Jäger</b> Professor for Biology, esp. Forensic Biology, Department of Natural Sciences		
September 1, 2012	<b>Prof. Dr. Dirk Reith</b> Professor for Fundamentals of Engineering, esp. Mathematics, Physics and Simulation Applications, EMT Department		

## University employee structure





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

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 Business Administration
Czech Republic	Tomas Bata University in Zlín, Faculty of Technology	Natural Sciences (Chemistry with Materials Science) All departments (Ph.D. programmes)
Denmark	Aalborg University Copenhagen	Computer Science
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)
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
Italy	University of Palermo, Dipartimento di Biologia Cellulare e dello Sviluppo	Natural Sciences (Biology)

Country	University	Department
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
Malta	Malta College of Arts, Science & Technology (MCAST), Gateway to Industry (MG21)	Natural Sciences (Biology)
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)
	Amsterdam University of Applied Sciences	Computer Science
Norway	HiST, Sør-Trøndelag University College in Trondheim	Computer Science EMT Natural Sciences (Biology and Chemistry with Materials Science)
People's Republic of China	Nantong University	Computer Science EMT Business Administration Natural Sciences
	Hunan University in Changsha	Business Administration
	Shanghai International Studies University College of Media & Communications	EMT (Media Studies)
Poland	Jagiellonian University 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
	Ufa State Aviation Technical University	Computer Science
	Tomsk Polytechnic University	Computer Science

Country	University	Department
Spain	Universitat de Valencia	Natural Sciences (Biology)
	Universitat Politecnica de Valencia	EMT 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)
Ukraine	Chernihiv State Technological University (CSTU) in Chernihiv	EMT
United Kingdom	Robert Gordon University in Aberdeen	Natural Sciences (Forensic Science) 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 (Biology, 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	Business Administration
	California State University in Sacramento	Computer Science
	University of Bridgeport	Business Administration
	University of California, Riverside (UCR)	Business Administration

## Awards in 2012

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### Germany at its best: “Best in class” rating

#### International Media Studies Master’s programme,

Recognised as an innovative study programme for media and development cooperation

### Best Master’s thesis by a female student

- **Rabeaa Alkhateeb**, Biomedical Sciences, Department of Natural Sciences
- **Li Yongping**, Biomedical Sciences, Department of Natural Sciences
- **Yvonne Sartor**, NGO Management, Department of Business Administration
- **Lidia Torres**, Autonomous Systems, Department of Computer Science

### Max Buchner Research Foundation Prize

**Anne Granitzny**, Forensic Science, Department of Natural Sciences

### DAAD Prize

**Mandar Satyanath Pathare**, Autonomous Systems, Department of Computer Science

### IZNE Sustainability Prize

**Pascal Annicotte**, Department of Business Administration

### Bonn-Rhein-Sieg University of Applied Sciences Teaching Award

**Prof. Dr. Ursula Konrads**, Professor for Mathematics and Computer Science, Department of Electrical Engineering, Mechanical Engineering and Technical Journalism

➔ See page 16

### University Innovation Prize

Prof. Dr. Elvira Jankowski, Professor for Methods of Construction and Quality Engineering, and Manfred Bretz, Research Associate, Department of Electrical Engineering, Mechanical Engineering and Technical Journalism

➔ See page 74

### Best Paper Award, IEEE EDUCON Conference

Prof. Dr. Marco Winzker, Professor for Digital Design and Fundamentals of Electrical Engineering, Department of Electrical Engineering, Mechanical Engineering and Technical Journalism

### “Blaue Schiene” project prize

Tobias Böll, Mechanical Engineering, Department of Electrical Engineering, Mechanical Engineering and Technical Journalism

➔ See page 15

### SaSeRoS (Robot competition) - Winning teams

Best Robot Award: **Rasmus Pettersson** (Metropolia), **Juuso Vuorenmaa** (Metropolia), **Stijn Begeman** (HvA), **Torbjørn Langland** (HiST), **Joschka Rick** (BRSU), **Jorge Valero** (UPV), **Reinier Kuijk** (HvA)

Best Specification: **Felix Sepke** (BRSU), **Janne Suomalainen** (Metropolia), **Stian Lysnes** (HiST), **Jean-Pierre Bakaman** (HvA), **Elena Schulz** (BRSU), **Marius Hagen** (HiST)

➔ See page 84



## Winners of the “Gesellschaft der Förderer” (Society of Donors) Awards

Prize for outstanding Bachelor thesis

**Ouafaa El Baz**, Mechanical Engineering

Award sponsor: Dr. Reinold Hagen Stiftung

**Jana Härer**, Social Security

Award sponsor: German Social Accident Insurance (DGUV)

**Daniel Krämer**, Computer Science

Award sponsor: DSG Canusa GmbH

**Kristin Kreuzer**, Applied Biology

Award sponsor: Antiinfectives Intelligence GmbH

**Robert Müller**, Technical Journalism

Award sponsor: Zurich Insurance Group

**Christina Pakusch**, Business Administration

Award sponsor: true fruits GmbH

**Lukas Pschyklenk**, Chemistry with Material Science

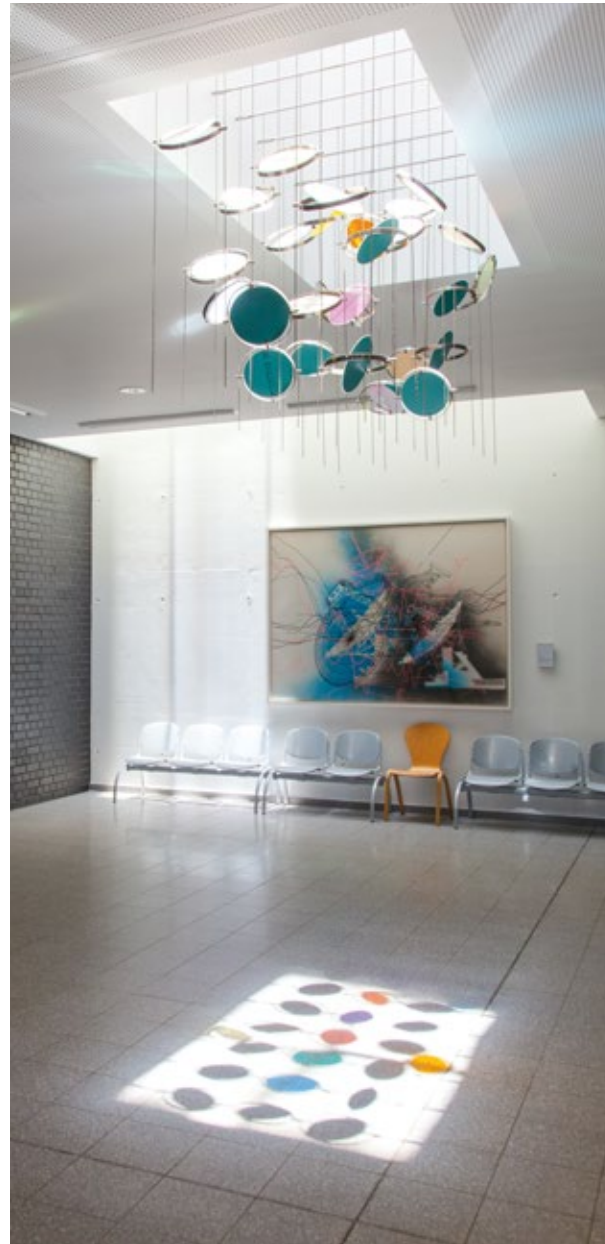
Award sponsor: Siegwerk Druckfarben AG & Co. KGaA

**Vanessa C. Schell**, Business Administration

Award sponsor: Kreissparkasse Köln

**Christoph Wendel**, Electrical Engineering

Award sponsor: Eaton Industries GmbH



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Elena Schulz: 4, 38/39, 50(2), 51

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53773 Hennef

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