

# An Internationally Alert University



2010



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

## Cover picture

Jana Schuster, Annette Menke, Gerd Knupp and Dieter Reinscheid are fully engaged in the new international courses at Bonn-Rhine-Sieg University of Applied Sciences

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# An Internationally Alert University

## Globalisation affects everyone

An essay by University President Hartmut Ihne

6



## Open to the world

Launch of "International Office", excellent evaluation by International Student Barometer, international Summer Schools, new international university collaborations with emerging and developing countries: The university is implementing its international strategy

12



## Excellence in Learning

Best service with online registration, learning techniques for first-semester students, two new part-time Master's programmes in the Department of Business Administration, free use of wireless networks and software on campus: Students recommend Bonn-Rhine-Sieg University of Applied Sciences

28



## Strong Research

Research focus on Security Research and Visual Computing, new Institute for Detection Technology founded, diverse research collaborations with universities at home and abroad: The university's international bias and intensive research complement each other perfectly

38



## Vibrant Campus

Fit through university, sports competition in Istanbul, gaining confidence through improvisation theatre, university robot wins German Championship, family-friendly university, smart energy use: Students and staff bring the campus to life

52



## Partners in the Region

Dual degree with Ford, fund-raising professional identifies private sponsors, companies invest in scholarships, zdi-Roberta-Zentrum introduces girls to technology, new companies on the BusinessCampus, Bonn Sustainability Portal, close ties with alumni: Regional roots are the basis for international activities

66



## Facts and Figures

80



# Globalisation affects everyone

**Science and business have a lot in common, but they share one trait in particular: Their success is based on demand in their respective 'markets'. The higher the demand, the greater the success. If you want to be successful in science or business you have to think globally. The global dimension determines local circumstances, just as the whole determines its parts. And vice versa.**

*By University President Hartmut Ihne*

## Beyond political borders

From its very beginnings, science has conceived of its role in international terms. This holds just as true for the European self-image of science since antiquity, as it does for other great science traditions. The scientific community has always considered itself unbound by the political borders that surround it. The great philosophical schools of antiquity communicated with each other, as did the Islamic schools of science and the Christian monastic schools of the middle ages. Over the centuries, our universities have evolved from their traditions and ideas.

This internationalism is related to the sciences' inherent logic of questioning and searching. Scientific theory differs from other forms of thought and speech in that it claims validity for its statements regardless of historical or socio-cultural affiliations. Ideally, the scientific statement and its validity per se are independent of biological and socio-genetic conditions.

Scientific truth, in contrast to daily experience, is defined by methodological principles, which formulate the conditions for the systematic verification and falsification of statements and statement systems. It is these very principles that radically distinguish science from subjective experience and esotericism. As such, there is an inherent logic in every scientific research or teaching institution focusing particular attention on 'internationalism'.

## Changing markets

In addition to international science markets, today, other markets also challenge us to position our universities more advantageously: graduates' labour markets, the markets of competing universities at regional, national and inter-



national (in particular European) level, the competition between nations and their corporations.

The world is changing, and change engenders change. We must actively shape this change. What we cannot prevent, we have to adapt. For over two decades now, we have been using the term 'globalisation' – it is omnipresent. We use it to denote the comprehensive process in business, science, culture, technology and politics which potentially affects everyone everywhere. This process involves global communication on the internet, rapid global cash flows, cross-border commerce and mobile labour markets, the emergence of a world culture and world politics. Science communicates in global networks.

These developments come with economic and political power shifts towards new global actors at state level, such as China, India, Brazil and others. Great opportunities for peaceful global exchange between nations are under pressure from global upheaval in the form of climate change,

more acute food scarcities due to soil degradation, increased poverty in all parts of the world, but worst in the poorest developing countries, new conflicts over resources such as drinking water, as well as all societies' vulnerability to unchecked financial markets.

### Labour markets for students

Students are the next generation who will support science and industry. Most of them will not work directly in science. They will, however, take on expert, executive responsibility in a rapidly changing world, and that is what scientific study must prepare them to do. Today's students must be trained to acquire the ability and skills to use their expert knowledge and make decisions worldwide.

It would be illusionary to think only in terms of regional labour markets only requiring regional competencies. Not just transnational corporations, but also small and medium-sized enterprises are embedded in and dependent upon global markets. And this dependence is increasing. An engineer in a medium-sized enterprise might very well find him- or herself dispatched from Windeck to Changsha, Accra or Calcutta.

So, if you interpret it properly, regionalism actually also means internationalism. University must promote 'international skills': world languages (English a must, Chinese if you are wise), international experience (the earlier, the better), cultural learning (since cultural stereotypes hamper successful dialogue). It is also important that students learn to trust their own decisions and show integrity, in other words, that they acquire a creative and ethical foundation. Our graduates should know that they learn for real life here, that they will be well prepared for life in a changing world.

### Shortage of specialists

The shortage of specialists has led to a misleading debate based on old-fashioned ways of thinking. It is fatal to believe that we can simply lure experts from neighbouring regions or countries to Germany. All OECD countries, with a few exceptions, suffer from the same symptoms: shrinking populations coupled with (a desire to have) increased productivity. In the long run, it seems both unsustainable and senseless for sick people to snatch each others' doctors away from them.



Globalisation affects everyone

Therefore, our university is intensifying its collaboration with partner universities in emerging and developing countries. There are enough bright minds who want to study and are unable to do so through no fault of their own. We want to recruit the best students from selected countries and train them here, in cooperation with universities there. This programme is called 'Teaching for Development'. It involves all our departments and is flanked by an International Centre for Sustainable Development. This helps us achieve two things: We contribute to the academic training of future specialists and leaders in developing countries, and we systematically bring smart brains to Germany. Some of them will stay, and thus directly help solve the problem of a lack of specialists as well as the looming demographic crisis in our society.

The so-called brain-drain has to be stopped in its tracks and turned to good use with the help of intelligent diaspora policies, which involve migrants in cooperation with their countries of origin. It is also in the long-term interest of an export nation dependent on raw materials and export markets to train tomorrow's elites for tomorrow's markets. The world's most dynamic markets are in Asia, Latin America, some even in Africa. Studying in Germany forges bonds and opens up minds for easier economic, political and cultural collaboration.

All in all, and backed by astute immigration policies, German universities could become incubators for well-trained future residents. To achieve a significant nationwide effect, however, domestic as well as foreign economic policy, foreign policy in general, science policy and development policy would have to be synchronised effectively at federal and regional level.

### Regional internationalism

By driving international exchange, we connect diverse regions in the world on a long-term basis. We forge contacts with international partners who are familiar with the ways of German culture. We enable students to open up to other ways of thinking, to reflect on the patterns that govern their own actions, and to rethink them creatively. Intercultural competence is a qualification that will be the decisive added value on the employment market, and for our future in general. Those who are mobile during their studies and who network will continue to do so later in

life. They will always be ambassadors of our culture. Those who are open for the unknown and allow it to enter their comfort zone will understand how societies are globally interconnected. And they will use their knowledge. So we empower people to assume responsibility by conscious – and thus sustainable – decision-making and actions. This includes the ability to live freedom in a way that does not limit the freedom of others. Otherwise, freedom degenerates into hypocrisy.

The wealth of regions is based on their degree of openness, their mutual exchange with other regions and with the cultures of this world. It is the universities' primordial mission to build bridges and pave the way for this. In the face of current challenges, they are more obliged than ever to live internationalism and implement it with determination so they can bring about future-proof innovations, open up sustainable development potential and vigorously push their regions ahead.

Today, we are building tomorrow's world. The problem is that we have to design our tomorrow with the tools of today. This is why we should place our trust in the young people at our universities, who are closer to tomorrow's world than the older ones. What we can provide them with is ease of mind, solid learning and research, as well as self-confidence as they set off on new paths.



# University Development Plan 2010 – 2015

To ensure that Bonn-Rhine-Sieg University of Applied Sciences is fully prepared for regional and international challenges in all areas is the all-embracing goal of the University Development Plan 2010 – 2015.

In November 2010, the university published its strategy for the next five years. University President Hartmut Ihne: "What we build on is a high level of existing inter-connections, both regionally and internationally."

The University Council unanimously approved the University Development Plan 2010 – 2015. In the coming years, the university will implement its strategic goals step by step, all based on the principle of maintaining and enhancing the high quality of its research, teaching and transfer.

There are four core areas:

## Teaching

Pilot projects to integrate new developments into communications and teaching theory

## Research

Research activities to be intensified and focused

## Internationalisation

More mobility, new partnerships and networks, increased cooperation with partners in emerging and developing countries

## Funding

Innovative funding tools

The University Development Plan 2010 – 2015 online:  
[www.h-bonn-rhein-sieg.de/Hochschule/Presse\\_+und+Oeffentlichkeitsarbeit/Publikationen/HEP.html](http://www.h-bonn-rhein-sieg.de/Hochschule/Presse_+und+Oeffentlichkeitsarbeit/Publikationen/HEP.html)



Globalisation affects everyone



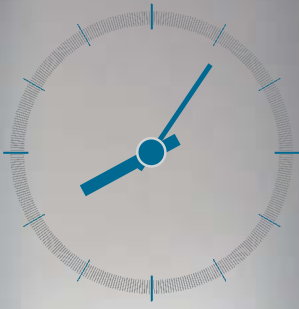


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Hennef Campus

Susanne Peters-Lange  
Professor for Social Security Law

“Here on the Hennef Campus, our research and teaching focus is on the health-related and social implications of gainful employment in a constantly changing globalised society.”



Open to  
the World







# Positive Feedback

## Over 80 percent of international students are fully satisfied with Bonn-Rhine-Sieg University of Applied Sciences

Deepa Gurung from Nepal would definitely recommend Bonn-Rhine-Sieg University of Applied Sciences. And the young Master's student from the Department of Natural Sciences shares this opinion with 84 percent of her international fellow students.

A survey by the International Student Barometer (ISB), in which Bonn-Rhine-Sieg University of Applied Sciences participated for the first time, produced this positive result in November 2010. Of the 469 international students who were asked to participate, over 45 percent gave their opinion. "We were impressed by the degree of participation," says Dr. Roland Weiß, Director of the International Office.

Students could express their satisfaction or dissatisfaction in four areas: learning environment and conditions, living conditions, support by the university and welcome at their host university on arrival. Whilst overall satisfaction is high at 82 percent, international guests were even more impressed with the learning environment and conditions here: Between 85 and 95 percent stated that they were satisfied or very satisfied with the technical equipment, the library, the language centre and the support they received from Student Affairs and the International Office.



### It's the first impression that counts

Students were, however, less happy about their arrival and the first days at the university. "We are an international university. If international students don't give us such good marks for one aspect of their stay here, this is a great incentive for us to do something about it. We want to satisfy our guests in every way," says Roland Weiß.

The first steps have already been taken: An International Welcome Centre is being established and an online portal will allow students easy access to information before they arrive in Germany. Roland Weiß is also contemplating expanding the system of study buddies, which is already in place in the Department of Natural Sciences: Experienced students are on hand to mentor the new arrivals during those first few difficult days and weeks in Germany. In addition, there are plans to hold orientation days in every department at the beginning of their stay.

Since students would like to see more activities that bring them in contact with German students, the International Office will develop more opportunities of this kind, as well. Short day trips in the area are already popular (see page 24). Roland Weiß: "The survey is an objective tool that has confirmed our current strategy, which focuses on welcoming and integrating our international guests. We are on the right track."

### International Student Barometer

The International Student Barometer is used worldwide. Since its inception in 2005, the "International Graduate Insight Group" has surveyed international students at more than 700 universities in 22 countries.

[www.i-graduate.org](http://www.i-graduate.org)



# Internationalism is a Trademark

## New International Office with two service areas

Having enjoyed international experience first-hand, Dr. Roland Weiß knows what it feels like to be a foreigner. As a student, he spent three months in Burkina Faso doing field research for his thesis. "This was a very formative experience. Although I was a complete stranger, the people were very hospitable and shared everything with me."



So the head of the International Office (IO) brought this attitude to Bonn-Rhine-Sieg University of Applied Sciences. Founded in October 2010, it is the central coordination point for international exchange and the university's global collaborations. Having evolved from the former "Akademisches Auslandsamt" and expanded considerably, the new IO comprises two areas: The "International Welcome Centre", which is still in its start-up phase, is the first point of contact for visiting students and scientists, and the "Office for International Academic Affairs" deals with students and scientists who wish to embark on a stay abroad.

"The International Office is there to support the university's strategic objectives: more mobility, new partnerships and networks, increased cooperation with partners in emerging and developing countries," Roland Weiß explains. Therefore, the IO will not be in one single place, but will interact with all departments, operating decentrally. There will be an IO service office for all the departments at both the Rheinbach and Sankt Augustin locations. "Implementing the international strategy is a mission for the entire university, and we are the support service in this process."

### The International Office

- supports international students, scientists and collaborative partners
- advises students, scientists and university staff on staying abroad for the purpose of study, work, teaching or research
- advises and coordinates all university institutes in their international activities
- helps maintain the university's existing international partnerships and develop cooperation with developing and emerging countries

<http://www.h-bonn-rhein-sieg.de/en/International+Affairs.html>





# New Partner in Ghana

## First cooperation with African university sealed

Bonn-Rhine-Sieg University of Applied Sciences has partnerships with 50 universities in 27 countries. 2010 marked the beginning of the first cooperation with an African university: In May, University President Hartmut Ihne and his counterpart Professor Naana Jane Opoku-Agyemang signed the document that sealed the partnership with the Ghanaian University of Cape Coast.

### Bonn and Cape Coast

“On our visit to Cape Coast, we found that they also have a Master’s programme in NGO Management,” says Professor Wiltrud Terlau, Vice President for Internationalisation and International Cooperation. The programme in NGO Management addresses organisations in the fields of international development cooperation, public health, and the environment from a business angle. It takes just three semesters to prepare its students for an executive career in NGOs, associations, or certain fields in the private sector such as corporate social responsibility. In view of their similarities, the two partner universities plan to have student and teacher exchange programmes, summer schools, conferences, research projects, cooperative PhDs and alumni networks. This academic cooperation is all the easier because Bonn and Cape Coast are already sister cities. “We want to invite colleagues from Cape Coast to teach here with us for a semester,” Wiltrud Terlau explains



*Professor Naana Jane Opoku-Agyemang, President of the University of Cape Coast, and Professor Hartmut Ihne signing the cooperation agreement*

her idea of “on the spot internationalisation”. Student exchange is to become another focus. “The third semester is the perfect time for it,” says the professor who also teaches courses in NGO management, “because in this semester, students are supposed to work on a project in the field. This so-called transfer project can very well be done in the partner country.”

## DAAD Award for 23 year-old graduate

### Saif El-Din Shehata studied in Egypt, Scotland and Rheinbach

His Bachelor’s degree took him from Cairo to Dundee and to the Rheinbach Campus; his two academic degrees are from Germany and the United Kingdom: Saif El-Din Shehata has enjoyed a truly international education. Wherever he studied, the 23-year-old also dedicated himself to the welfare of fellow students, and in Rheinbach he worked as a lab assistant. In autumn 2010, Shehata graduated from Bonn-Rhine-Sieg University of Applied Sciences with a Bachelor’s degree in Applied Biology with the excellent overall mark of 1.2. And upon nomination by the university, he also became a DAAD award winner.

Shehata received the award, worth 1,000 euros, at the central graduation ceremony from Professor Wiltrud Terlau, Vice President for Internationalisation and International Cooperation. He expressed his thanks to his parents, his many supporters at the university, and especially to his wife Sherin Saad, who was also present at the ceremony.



## Successful transfer

John Linscell Yen is an example of successful exchange. The 37-year-old Ghanaian has been studying in Germany since the winter term of 2010/2011. Yen had prepared his transfer project "Project evaluation and controlling" at home in Accra, where he mentored one of the training programmes of the German Don Bosco Mission. His work, which is also the basis for his Master's thesis, now continues at the Bonn headquarters of this church-based development aid organisation. After graduating, Yen wants to return to Ghana and put his knowledge to work at home.

Bonn-Rhine-Sieg University of Applied Sciences strives to bring more gifted students from Ghana to Germany. Cost, however, is one fundamental problem in dealing with partners in developing and emerging countries, according to Wiltrud Terlau. "For John Linscell Yen we were able to secure two scholarships from private foundations." Similar models are to be followed to provide funding for more students from Ghana, especially as other departments are also now engaged in cooperation negotiations with the University of Cape Coast.

Organisational support for the German-Ghanaian collaborations will be provided by the Joint International Office, which opened on the Rheinbach Campus in 2010. The office coordinates cooperation between the universities and will serve as a central contact point for visiting students and lecturers once the exchange programme gets fully underway. Its tandem office at the University of Cape Coast is scheduled to open soon.



## Expanding international cooperation

"Enhancing our international profile is one of the strategic objectives of Bonn-Rhine-Sieg University of Applied Sciences. This aim is twofold: We want to prepare our students for national as well as international labour markets and minimise the impact of demographic change on our situation in Germany. In future, we will recruit more students, teachers and researchers from abroad than we have in the past. This means we will strategically focus on building and developing existing collaborations with international universities, with an emphasis on developing and emerging countries. For this purpose, Bonn-Rhine-Sieg University of Applied Sciences has opened an International Centre for Sustainable Development and launched the Teaching for Development Initiative, in which we will develop specialised Master's degree programmes for gifted students from developing and emerging countries. We are at an advantage here in the Bonn/Rhine-Sieg area, with all the potential offered by this unique international science and business centre with its wealth of international organisations and corporations."

Prof. Dr. Wiltrud Terlau,

Vice President for Internationalisation and International Cooperation



# B2B Business: Bonn to Bordeaux

## German and French students practise “Global English”

“Language learning is about international communication much more than it is about getting good marks,” says Eileen Küpper. Her colleague Regina Brautlacht agrees. Both are heads of department for Business English at the university’s language centres, Eileen Küpper on the Rheinbach Campus, Regina Brautlacht on the Sankt Augustin Campus. With colleagues at the Ecole Nationale Supérieure de Chimie, de Biologie et de Physique (ENSCBP) in Bordeaux, France, they launched the project ‘B2B Business: Bonn to Bordeaux’. “Students have fewer inhibitions about speaking English when there are no native speakers around,” explains Küpper. “This so-called Global English also reduces their fear of making mistakes.” Another advantage of B2B Business is its realistic conversational setting, according to the head of department: “It’s a completely different ballgame if your foreign business partner is being played by a non-native student.”

A total of nearly 80 students – from two classes in Germany, and two in France – allowed their partners a peek at their daily lives in short films, which they shot in small groups. Highlight of the semester was a video conference in which all four groups discussed their films face-to-face. “In addition to language practice, we also wanted to train this particular form of communication,” Regina Brautlacht explains. “In today’s internationally networked business world, video conferences are routine, just like social networking. Therefore, students used Facebook as their main communication platform to prepare the live conference between Bonn and Bordeaux. “Some students had prepared their first few sentences in advance,” says Küpper. “But as soon as the ice was broken, the conversations flowed more and more freely.”

### To be continued

B2B not only provided the students with a certificate, but also with private contacts to France. Eileen Küpper and Regina Brautlacht are satisfied with the pilot project. They want to continue ‘B2B Business: Bonn to Bordeaux’ and connect German and French students once a year via video conference.

[www.spz.h-bonn-rhein-sieg.de/spz/en/Home.html](http://www.spz.h-bonn-rhein-sieg.de/spz/en/Home.html)



### Individual writing coaching

For help with writing, students can turn to the language centre, which has been offering two different writing workshops since 2010: “Individual writing coaching” provides help on a one-to-one basis for international students writing their assignments, minutes, and seminar or final theses in German. The ‘Writing Clinic’ offers assistance to all students with their English-language compositions and also advises on e-mails, CVs, personal statements and applications.





# Gateway to the World

## International programmes and sustainable development

"It is the very core of our international profile," says Wiltrud Terlau, Vice President for Internationalisation and International Cooperation, about the International Centre for Sustainable Development. Founded in 2010, it combines the activities of "Teaching for Development" (T4D) and "Interdisciplinary Research and Transfer", tools which the university intends to use to explore new markets, topics and networks in selected emerging and developing countries. "We want to double the percentage of international students at the university from today's 14 percent to 28 percent," says University President Hartmut Ihne, and goes on to summarise: "We train tomorrow's elites for tomorrow's markets, which means we are interested in the best students from emerging and developing countries. This will stabilise student numbers and facilitate access to markets."

Two international programmes are already part of the T4D initiative: The Master of Business Administration (MBA) programme 'NGO Management' started in 2009 with 21 international participants, whose career prospects in the growing NGO market look more than bright. Also in 2009, the first students began their Master's programme in 'International Media Studies'. This programme, offered in cooperation with Deutsche Welle and the University of Bonn, combines journalism, management, and media education.

The English-language programmes in biology are also international: Bachelor's students can choose from eight countries for their academic semester abroad. And the university offers dual degrees in cooperation with seven other universities.

### Initiative Teaching for Development T4D

[www.h-brs.de/en/teaching\\_for\\_development.html](http://www.h-brs.de/en/teaching_for_development.html)



### International Programmes

Applied Biology (BSc)

[http://fb05.h-brs.de/BSc\\_Applied\\_Biology-p-68.html](http://fb05.h-brs.de/BSc_Applied_Biology-p-68.html)

Biomedical Sciences (MSc)

[http://fb05.h-brs.de/MSc\\_Biomedical\\_Sciences-p-69.html](http://fb05.h-brs.de/MSc_Biomedical_Sciences-p-69.html)

International Media Studies (MA)

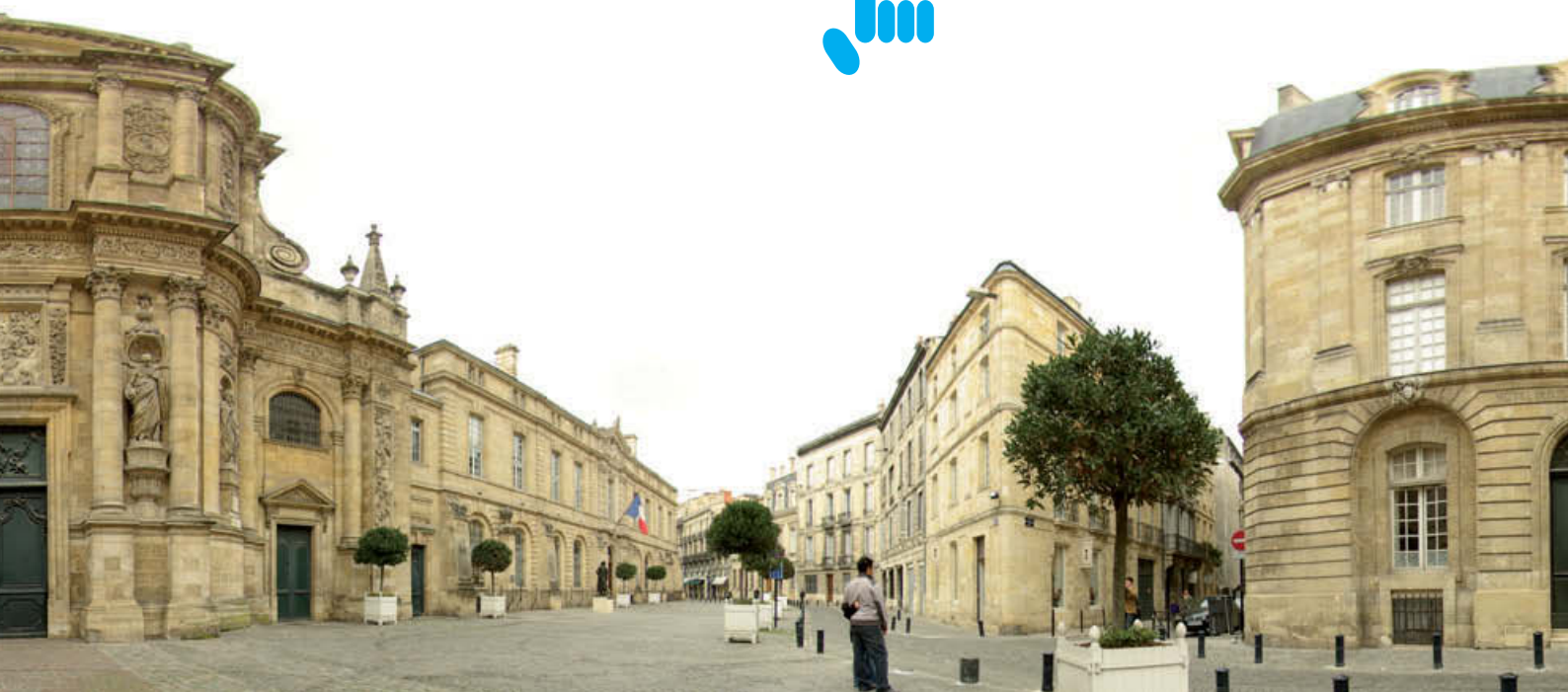
[http://fb03.h-brs.de/emt/en/international\\_media\\_studies.html](http://fb03.h-brs.de/emt/en/international_media_studies.html)

NGO-Management (MBA)

[www.ngo-rheinbach.de](http://www.ngo-rheinbach.de)

Autonomous Systems

[www.inf.h-bonn-rhein-sieg.de/en/Courses+of+Study/Master+of+Autonomous+Systems.html](http://www.inf.h-bonn-rhein-sieg.de/en/Courses+of+Study/Master+of+Autonomous+Systems.html)



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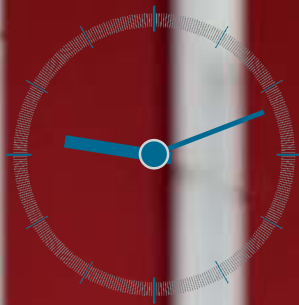
Rheinbach Campus



Deepa Gurung  
Master's Programme in Biomedical Sciences



"I have told many people at home in Nepal about studying in Rheinbach. Two of them are now studying here with me."





# Engineers for Ethiopia

## Cooperation with local aid organisations begins to bear fruit

“Teaching for Development” (T4D) and, effectively, sheer coincidence were the starting points for the cooperation between Bonn-Rhine-Sieg University of Applied Sciences and two aid organisations in Ethiopia: Elvira Jankowski, Professor for Methods of Construction and Quality Engineering at the Department of Electrical Engineering, Mechanical Engineering and Technical Journalism (EMT), sought opportunities to get involved in T4D. “Development aid was new territory for me,” she says. “So I had to come up with ideas. When I began researching, I learned that ‘Menschen für Menschen’ (People for People) trains engineers in Ethiopia.”

So Elvira Jankowski spontaneously invited ten experts to a workshop, including representatives of the GIZ, which is an umbrella organisation bundling the work of the GTZ, Society for Technical Cooperation, and Inwent – Capacity Building International, as well as the German Federal Ministry for Economic Cooperation and Development. “I wanted to explore how our department could provide sustainable aid to Africa,” says the professor. A project manager of ‘Menschen für Menschen’ came to the meeting all the way from Ethiopia. The Ethiopian-German government initiative “Engineering Capacity Building Program” (ecbp) was represented by the director of its

Reform Department, the mission of which is a renewal of engineering at universities. ecbp establishes new and largely independent engineering institutes at different universities to boost their innovative power.

### Professional development for lecturers

In May 2010, Professor Jankowski and the Dean of EMT, Professor Michael Krzeminski, visited two of the ecbp institutes at Addis Ababa University in Ethiopia’s capital. The northern campus is home to the Addis Ababa Institute of Technology; the Ethiopian Institute of Architecture is on the southern campus. Their next stop was the Agro Technical and Technology College (ATTC) in Harar, where the organisation ‘Menschen für Menschen’ trains engineers. “The studies there are more practice-oriented than ours, because the college was originally dedicated to vocational training. The professors found the labs and workshops well equipped. “Especially German students with no prior professional training in a technical field would profit from a visit here. We are starting to think of summer schools.” Bonn-Rhine-Sieg University of Applied Sciences is already involved in the training of teaching staff at the college. With her colleague Manfred Bretz, who is the Studio Director at the EMT Department, Elvira Jankowski is designing a modular video tutorial on didactics and methodology.

*Harar: a wind generator produces clean electricity*





### Cooperation with 'Menschen für Menschen'

In July, 2010, Almaz Böhm, Chairman of the Foundation 'Menschen für Menschen', and University President Hartmut Ihne signed a Memorandum of Understanding to officially document collaboration. "We will continue to develop our cooperation, we are progressing steadily," says Jankowski. Three students at the university have already visited Ethiopia, and the professor is convinced that "their experiences will be of great help in our further planning."

For her Bachelor's thesis, prospective technical journalist Miriam Birkel interviewed students and their parents in Harar. Her work is to serve as a tool to get German business partners involved in engineering training at ATTC. Birkel's fellow student Khadar Yusuf Mohamed, student of Electrical Engineering, is doing his internship in e-learning with ecbp at the Technical Institute of the University of Mekele. In addition, he has developed a concept for a brand new Institute for Automation Technology. For Heilacho Hagos, student of Mechanical Engineering, the stay in Harar, where he has designed and built a wind power generator for 'Menschen für Menschen', is also a very special experience. Elvira Jankowski says: "Heilacho is a native Ethiopian. I can't wait to hear what impressions he will bring back."

"Good morning, Prof."

### A visiting professor in Namibia

"Good morning, students." - "Good morning, Prof." To be greeted by the students almost in unison was definitely a new experience for Johannes Mockenhaupt, Professor for Medical Computer Systems at the Hennef Campus. As a visiting professor, he taught at the Department of Environmental Health Science at the Polytechnic of Namibia in the capital Windhoek from March to April 2010. Amongst other things, Mockenhaupt instructed the students at the African university in the proper use of measuring instruments and held lectures on the topic of "chemical stress".

In addition to, and sometimes even during his classes, Mockenhaupt also had the opportunity to explore his host country and its culture. For instance, he accompanied a field trip to Swakopmund, where students visited the port and factories in order to prepare for work experience there. He enjoyed interesting casual discussions with colleagues during their daily lunch at the College of Hotel Management, which is also part of the Polytechnic, and which served its German guest typical specialities, such as Onyx antelope.



# History and Curiosities

## International students visit Strasbourg and its cathedral

How about admiring the picturesque old houses and the impressive cathedral in Strasbourg? Or would you rather see the Porta Nigra and the Karl Marx House in Trier? International students at Bonn-Rhine-Sieg University of Applied Sciences had the choice. Every semester, the International Office organises a one-day trip for guests from abroad, allowing them to experience German history and, as was the case in 2010, also that of its neighbours.

In Strasbourg and Trier, the groups first went on a guided tour to explore the old town. But Ute Schriefers-Jung of the International Office, who runs and accompanies the trips, makes sure they are not just about history. As part of the Strasbourg programme, for example, students took a boat trip that allowed them to see the old town a second time from a different angle. They passed the European Union buildings and, by coincidence, even caught a glimpse of a "Christopher Street Day" parade.

*'Wonderful Trip': International students appreciate their outing to Strasbourg*



### In Changsha

#### Delegation visits Hunan University

"The students had only been learning German for about nine months, but most of them were able to converse with us pretty well," was Jürgen Bode's enthusiastic observation. The Professor of International Management at the Rheinbach Campus met students involved in the "2+2 programme" in Changsha, China, in May 2010. These students will complete the second stage of their degree programme at the Rheinbach Campus in 2011. A high-level delegation accompanied Bode, the initiator of the Sino-German collaboration: President Hartmut Ihne, Vice President Wiltrud Terlau, Professor Marc Ant, Dean of the Department of Business Administration, and MBA Coordinator Karsten Heinrich all came along to get a personal impression of the venerable Hunan University, which attached equally high importance to the new cooperation: Even the university's party secretary, who is normally part of the top university leadership in China, found time for a personal conversation, which is by no means a matter of course. A date for a return visit by a Chinese delegation has already been agreed upon.

### A journey through the centuries

In Trier, participants travelled deep into the past, from the Roman-era Porta Nigra and Basilica of Constantine to the early Gothic cathedral. What amazed them most, however, was a listed building dating back to the 13th century, just like the cathedral. The entrance to the so-called Three Kings' House is on the first floor. Its dwellers used to enter it with the help of a ladder, which could be quickly retracted in case of danger.

Ute Schriefers-Jung planned the trip so that in addition to expert guidance, the participants had time to make their own discoveries. "I thank you again for arranging this wonderful trip" was typical of the enthusiastic feedback at the end of the day.

# Conway – Istanbul – Toronto

## International Summer Schools are a tradition

The “Oded Löwenbein Summer School” celebrated its 10th anniversary in 2010. It is a reciprocal affair: Students from the Coastal Carolina University in Conway in the U.S. come to Germany in May, their partners from Bonn-Rhine-Sieg University of Applied Sciences and FH Koblenz University of Applied Sciences visit their American partner university in the summer. Bonn-Rhine-Sieg University of Applied Sciences offers its students a variety of such multi-week block courses. After Jordan and Norway in the previous years, Istanbul, Turkey, was one of the destinations in 2010. Students and teachers also travelled to the longest-standing summer school which is held in Toronto, Canada – 2010 was its 12th year.

### Similarities and differences

A common feature of all the summer schools is that they promote intercultural exchange. They are designed to raise the participants’ awareness of differences in lifestyles and academic workstyles. While abroad, students can earn academic credits that will be recognised at their own university, because these tutored summer courses are designed to match specific degree programmes.

In Istanbul, for instance, Professor Andreas Schümchen, Professor Katharina Seuser and Timo Stoppacher, research associate in the programme Technical Journalism, organised a week-long programme involving a significant element of practical work experience. Journalism students met their Turkish colleagues on campus at Istanbul University. In mixed Turco-German groups, they set out with their cameras to make short films about the city, which were then submitted to an expert jury for evaluation.

### Study, research, cultural adventures

The four-week stay in Toronto felt much like campus-life. A joint intensive course kept the German Computer Science majors and their Canadian counterparts on their toes. Professor Rainer Herpers was in charge of the students, but in addition to the summer school also took advantage of his visit to conduct joint research: He and three of his research associates visited a workshop in the context of the TransCoop project “Perception of Self-Motion in Virtual Environments” (see page 42). In spite of all the hard work, every summer school also offered opportunities to get to know the host country. Students in Istanbul, for example, explored the city with and without cameras; in Canada they went canoeing, and in the U.S. participants indulged in typical local leisure activities such as going to a baseball game.

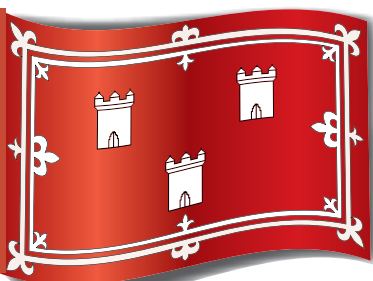


Open to the World



# “A Really Strong Connection”

## Cooperation with Robert Gordon University in Scotland has been extended



**They learn, teach, conduct research and publish together: Robert Gordon University in Aberdeen, Scotland, and Bonn-Rhine-Sieg University of Applied Sciences have been collaborating for ten years – with such success that they extended their cooperation**

**agreement in 2010. Professor Andrew Morrisson, Associate Head of the School of Pharmacy & Life Sciences at Robert Gordon University and Honorary Professor at Bonn-Rhine-Sieg University of Applied Sciences, is one of the founders of this collaboration.**

### *Do you remember how everything began?*

Ten years ago, I visited Bonn-Rhine-Sieg University of Applied Sciences for the first time at the invitation of my colleague Professor Maria-Paz Weisshaar, whom I had met at a conference. At the time, we were working on a concept for a new programme in biology. So we decided to give our programmes a similar direction. Our subsequent cooperation was a natural consequence of this.

### *How did cooperation develop from there?*

We started with an exchange of teaching staff. Then we worked out a concept for student exchange. We will soon receive the 100th guest from Rheinbach in Aberdeen. And some of our students have been to Rheinbach, too, mostly for research projects. Today, we cooperate closely on research with Professor Gerd Knupp at the Rheinbach Campus. Fellow professors from both universities publish jointly, write textbooks together – it has become a really strong connection.

### **Robert Gordon University**

[www.rgu.ac.uk](http://www.rgu.ac.uk)



### *Which disciplines take part in the exchange today?*

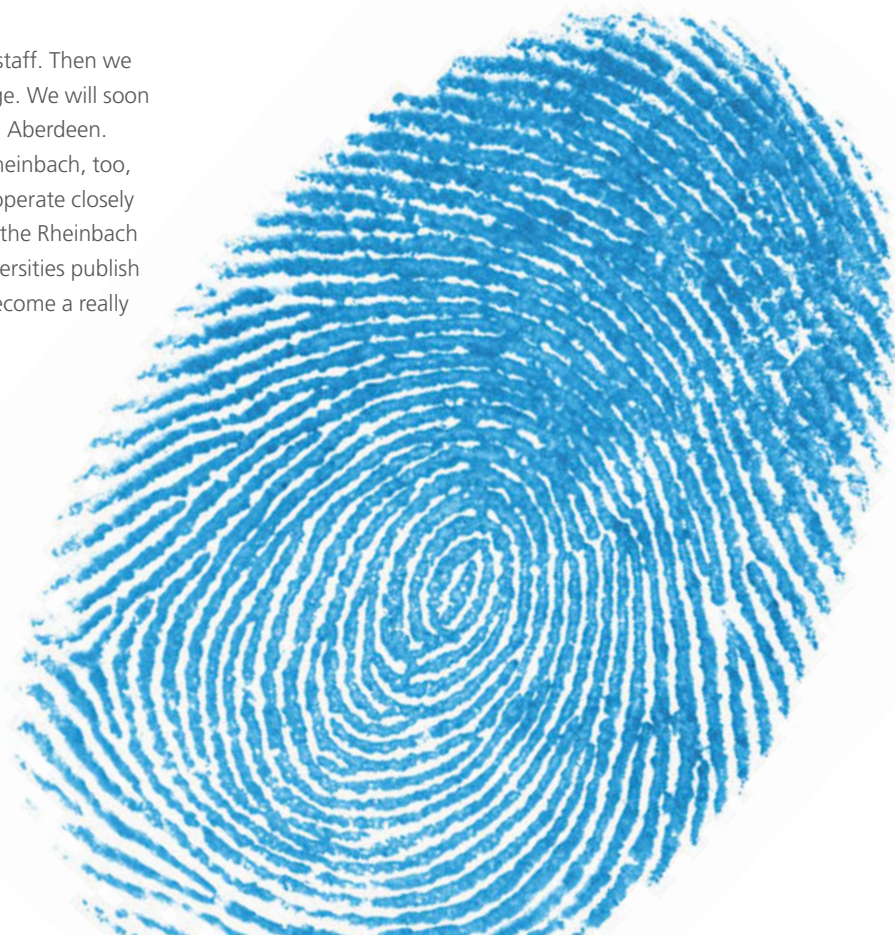
It all began with biology, then came the Bachelor's programme in forensic science. Bonn-Rhine-Sieg University of Applied Sciences is currently working on a Master's programme in Forensic Science. In Aberdeen, we have been offering this for a few years, so I have a lot of experience to share.

### *So you have been collaborating in this field from the start, as well?*

Yes, we have also developed similar curricula in forensic science to make an exchange possible. Eight students from Rheinbach are in Aberdeen now. And we even have 24 applicants for the next round. Unfortunately, we can't take all of them. But we are thrilled by the great response.

### *What are you hoping for in terms of future collaboration?*

Our collaboration in teaching is already very strong. So I believe that we will mainly expand our research cooperation. We will certainly continue our common work.



# People

## In vino veritas – Mandy Großgarten

She graduated in Chemistry with Material Sciences in Rheinbach as the top student in her year in September 2010.

And what is more: With her charm, elegance, and expert knowledge of a very special kind, she convinced the jury and was crowned Germany's Wine Queen for 2010/2011. In this role, she represents German wines abroad. Her studies at Bonn-Rhine-Sieg University of Applied Sciences already stirred her interest in international matters. Global university partnerships facilitate academic semesters abroad, there are two English-language degree programmes, and the campus is teeming with international students. "The campus does have an international flair," she says. At the same time, the ambiance is intimate; students stick together, and professors are always prepared to listen to students' concerns and troubles. "That made me want to find out more. Maybe that's what is driving me to new destinations," the Wine Queen says. Despite all the honours and her appetite for new adventures, Mandy Großgarten is keeping her feet firmly on the ground. In the winter term, she will begin a Master's degree programme in Polymer Sciences in Aachen.



Open to the World



# Excellence in Learning





# Two New Master's Programmes

## 35 highly motivated students study while working

Since the summer term of 2010, we have been offering two new Master's programmes at our Sankt Augustin location: Innovation and Information Management as well as Controlling and Management. "More and more young professionals want to go back to university and earn higher qualifications. Therefore, we offer them the opportunity to take these classes while they work," explains Eva Jacobsen, coordinator of the new Master's programmes. Currently, a total of 35 students are taking lectures and seminars in these four-semester programmes, which are held on Fridays and Saturdays. For the summer term of 2011, 42 men and women applied to the programme Controlling and Management alone. Another 37 applied to Innovation and Information Management. "The students in this first year are highly motivated and very disciplined," Eva Jacobsen says. One of them is 27-year-old Janine Iversen.

*Ms. Iversen, you hold a degree in Business Administration and work full-time for a Sparkasse bank as its market research officer. Why add a Master's degree in Innovation and Information Management?*

In the world of private business, a Master's degree often has more impact than a traditional German Diplom degree. That is due to the fact that a Master's programme places more emphasis on leadership and management skills. My medium-term goal, which I share with many of the students on the programme, is to attain a leadership position. For that I need the right skills and qualifications. Even though I personally do not necessarily want to work in information technology directly, you need to have across-

the-board knowledge once you reach a certain career level. And the Master's programme Innovation and Information Management teaches me precisely that.

*You have completed two semesters. What do you think of the programme so far?*

It's very good. I had my reservations beforehand, because I had less specific prior knowledge in IT than my fellow students. But since the programme predominantly focuses on strategic contents, someone like me who has little IT expertise can still follow. The classes are always very hands-on, so we re-discover many aspects of our own everyday working lives in them. That makes it easier to understand.

*So practical application plays an important role?*

A significant advantage of this programme is that it is designed to be compatible with holding down a full job. Most students bring their professional experience into the classes, which allows us to transfer the theoretical concepts we learn to practical cases.

*Why did you choose Bonn-Rhine-Sieg University of Applied Sciences once again?*

I liked my Diplom programme very much. And this Master's programme was conceived by the same lecturers, which helped me pre-assess the quality of the programme. I did research other Master's programmes at other universities, but the contents at the Sankt Augustin location convinced me, and the schedule there was compatible with my job routine. In addition, the university is very modern and well equipped.

### More flexibility: the Application Portal

The computer labs at the Department of Electrical Engineering, Mechanical Engineering and Technical Journalism are very popular with students: After all, they are the only ones where you can access extensive software programmes such as the mathematical application 'Matlab'. In order to use one of these PCs, students must observe fixed lab hours. A convenient alternative to these is the Application Portal, set up by research associate Ralf Martin in cooperation with students. They have created an IT infrastructure that

allows students to access specific programmes on the university's wireless network at any time. In a first test phase of the pilot project, users can now access the software applications 'Matlab' and 'MS Office 2007' from the convenience of their own laptops. "We successfully implemented technology that helps reduce crowding in the computer labs and allows students in the department to work with these applications flexibly," Ralf Martin explains. This service might be gradually extended, depending on user acceptance.



# Let's Go International!

## Most popular: semesters abroad in Australia and the USA

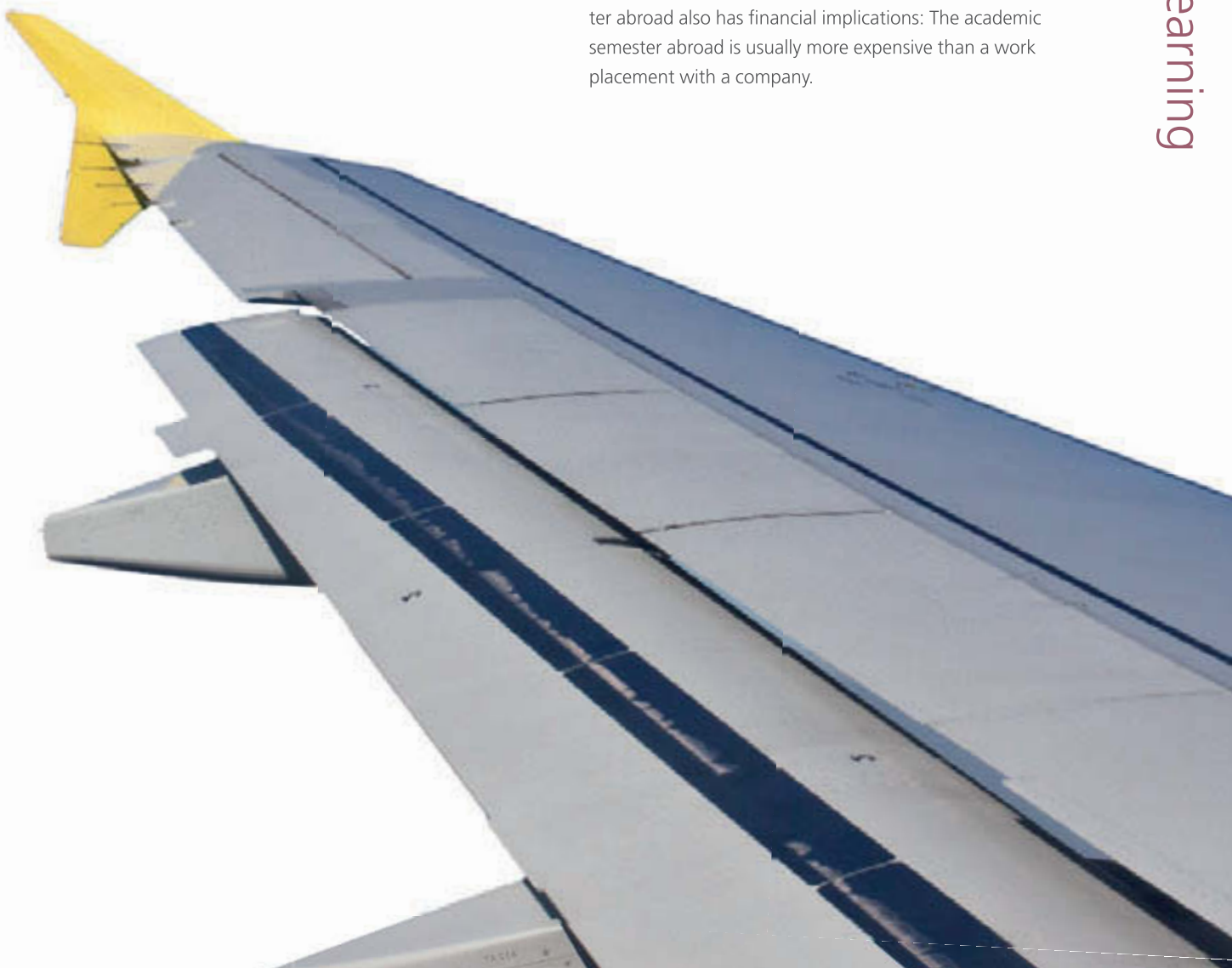
Young people reap a lifetime of benefits from practical and international experience. Therefore, an internship at home or abroad and an academic semester at a foreign university are part of the mandatory programme in Business Administration. In the winter term of 2010/2011, a total of 89 students in the department embarked on their work experience or academic semester abroad, including 32 (36 percent) who left the country, either to study at a university abroad or to get experience of professional life in Mexico, Taiwan, the United Arab Emirates or Australia - 'Down Under' being the most popular international destination alongside the USA.

### Valuable experience in Korea

Florian Bahr was the first student in the Department of Business Administration to study at Kyungpook National University, our partner university in Korea. "To me, the friendships I made were the most valuable experience

that I was able to take home with me. For my professional future, my new contacts will certainly be important, as will be the ability to approach people and converse with them in a foreign language without inhibitions," the 29-year-old business student and trained advertising manager summarises his academic semester abroad. Another popular destination was our new French partner university, Université Paris Descartes. "We had even more applications than places available," says Sonja Atai who advises students in the department about work placements and academic semesters abroad.

"For students who have already completed vocational training or have work experience, the academic semester abroad is a sensible alternative to the internship, as they acquire intercultural and foreign language skills to complement their professional knowledge - undoubted assets for their future professional lives," says Sonja Atai. The choice between work experience and an academic semester abroad also has financial implications: The academic semester abroad is usually more expensive than a work placement with a company.





# Uncharted Academic Territory

## Taking a Ph.D. at the Graduate Institute of Bonn-Rhine-Sieg University of Applied Sciences

By founding a Graduate Institute on 1 January 2010, Bonn-Rhine-Sieg University of Applied Sciences trod uncharted academic territory: It promotes junior researchers at Fachhochschulen (universities of applied sciences) in their Ph.D. endeavours. The various departments bundle their individual initiatives at the institute, develop them further and make them visible.

“The Graduate Institute is a consistent and logical step in the context of the Bologna Process,” says Vice President Reiner Clement, who is in charge of building up the institute. The academic portfolio of many universities of applied sciences is comparable to that of regular universities, according to him. In some disciplines, universities of applied sciences even produced the majority of academics in the field. “Against this backdrop, it is illogical and detrimental to future economic viability that universities of applied sciences still suffer a clear competitive disadvantage when it comes to postgraduate training for their academic talent,” says Clement, a Professor of Economics. The main

objective of the new institute is to promote structured Ph.D. programmes. These are based on a mentoring agreement between the Ph.D. candidate and the university. The doctorate follows clear thematic directives, embedded in a research environment with a fixed curriculum. The standard duration of a Ph.D. programme is three years. Financing and regular exchange with other Ph.D. candidates are also clearly structured.

### A visible signal for Ph.D. candidates

With its Graduate Institute, Bonn-Rhine-Sieg University of Applied Sciences is at the forefront of structured doctoral training, pointing the way for graduates from universities of applied sciences who want to work in an academic environment. Reiner Clement: “Our highly qualified graduates make a significant contribution to securing Germany’s status as a knowledge and technology location. With our Graduate Institute, we will strengthen the long-term quality, innovative power and competitiveness of universities of applied sciences.”

### B.A. Working Group for better courses

The Bachelor’s degree has become a staple of German university life. However, there is still a need to optimise the course of studies. With this goal in mind, the Department of Electrical Engineering, Mechanical Engineering and Technical Journalism launched a B.A. Working Group, an open forum for all Bachelor’s students as well as professors and other teaching staff. As soon as a grievance is determined, participants in the working group directly approach the person responsible. The concept works: For example, the B.A. Working Group was able to reduce the number of credits required to begin the mandatory internship from 80 to 75. “We sat down with the people in charge and explained the problem with an example. It became clear that 80 credits are unrealistic,” explains Sandra Werner, deputy chair of the B.A. Working Group. The working group reflects the culture of constructive cooperation between teachers and students at the EMT department and helps enhance the quality of the course on offer.



# Learning Made Easy

## Tools for studying successfully

Life can be hard for first-semester students: their first time away from home in a strange city; everything is new, exciting and exhausting. And on top of that they are supposed to study. Many first-semester students find out, much to their dismay, that the learning methods that worked at school do not work at university: doing nothing until just before the test, then trying to cram the missing contents into a couple of all-nighters: "This is not how studying works," says Uwe Brummund. A Professor of Mathematics and Physics, he offers first-semester students in the Technical Journalism programme a class on "Studying and Presentation Techniques".

### Presenting study techniques

"Students often don't know how to approach a problem," says Brummund. Systematic learning is supposed to be practised intensively at school, but that often does not happen. "My biggest topic is: 'How do I learn?'" the professor explains. To explore this question, participants in his class team up in pairs to prepare a half-hour presentation. The range of topics for these power point presentations is broad, but always related to learning: It is about presentation techniques, learning styles, motivation for learning, preparing for exams, coping with test anxiety, or health and nutrition while you study. Body language and rhetoric also play an important part.



Before the presentation, Brummund meets each student team for a two-hour conference. "We go over everything, from the contents to the design of the slides." After their presentation to their class, they all sit down together. The audience gives the presenters their feedback. Did they seem nervous or confident? What was their body language like? The presenters themselves report on their feelings and experiences during the presentation.

"The goal is for students to become aware of different learning techniques that they will actually apply during their studies," says Brummund. He wants to provide students with the right tools. "The right learning techniques are an important piece in the big puzzle of studying at a university."



## Preparing for work in an international context

In our globalised world, most of the professional fields for which Bonn-Rhine-Sieg University of Applied Sciences trains its students are international in nature, a fact that is reflected in our programmes. Even if graduates stay in the region, many of them will work globally on behalf of their companies. Internationalisation is vital to the viability of our university and the region. For studying and teaching, this means more heterogeneous groups of students, a higher degree of diversity, more English-language instruction in combination with English texts in textbooks and in e-learning, as well as international topics and contents in the curricula – all at the same time. Double degrees

in cooperation with international partner universities, summer schools and stays abroad are already an integral part of many students' programmes here at Bonn-Rhine-Sieg University of Applied Sciences. We support them in this and thus provide them with optimum preparation for their professional future.

**Prof. Dr. Manfred Kaul**

Vice President for Tuition,  
Studies and Further Education



# From Aristotle to Hitchcock

## The Humanist Seminar

**Since the summer term of 2010, the Department of Social Security has been offering a Humanist Seminar that is now open to students in all other programmes. Erwin Toepler, Professor for Case Management, initiated the programme.**

### *What led you to start a Humanist Seminar?*

A certain sense of regret amongst some of my colleagues and myself. The training our students receive today is mainly functional. Back in the days when we were students, we had more opportunities to explore other areas of knowledge and other perspectives, and discovered that education had a value for our personalities. Students don't have this opportunity to the same extent any more. The Humanist Seminar shows that the human thirst for knowledge can be very enriching for each individual.

### *What do you want to achieve with your students?*

I want them to understand that thinking and comprehension should not just be experience- and evidence-based, but embrace all variants of culture. Apart from this, the process of developing thoughts tends to be somewhat neglected nowadays.

### *The spectrum of topics ranges from Aristotle to Hitchcock and Karl Valentin...*

Yes, it's not just about philosophy. In our search for human nature, we can also find answers in the works of thriller writers and unconventional thinkers. At the outset, we were also worried that pure philosophy might not be appealing enough. This was not the case. One of the most popular classes was "Aristotle Today – What is Social Justice?"

### *Are participants a little nervous about this class sometimes?*

I hope not. There is no reason to be. We are not a super-academic circle. We watch films together, read to each other, discuss a topic that one person has prepared. And we brainstorm in a socially relaxed setting, exploring what the topic is telling us and what we can do with it in today's world.

### *What do you have planned for the future?*

The range of topics will remain broad. In the meantime, other lecturers and external speakers also contribute to our seminar. For example, the founder of the first "Society for Philosophical Practice", Gerd Achenbach, took us on a journey through time. We plan to invite a speaker from the difficult topic area of natural sciences versus consciousness, a brain researcher, perhaps, who will report on transcendence from a neuro-physiological point of view. Another great thing we plan to have in the future are evenings that students and professors organise jointly.

## Additional service: apply online

For Bachelor's programmes with restricted admission - Business Administration, Electrical Engineering, Mechanical Engineering, Forensic Sciences, Technical Journalism and Business Information Systems - the university introduced an online application system in the summer term of 2009. "People took up the new offer right from the start," says Gabriele Krauß, Director of the Students' Office. There were hardly any glitches. Wrong data was the exception. At first, it was still possible to submit a written application, but now you can only apply online.

The great advantage for prospective students is that they can now look up the status of their application online at any time. Is my application still pending because of missing documentation, or has it already been approved for the selection process? Applicants who have been admitted are then asked to upload their photo. By the winter term of 2011/2012, the online application portal will be available for all Master's programmes.

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



# Green Light for Women Professors

## Preparing for a career as a female university teacher – a seminar series

On average, only 15 percent of German professorships are held by women. At Bonn-Rhine-Sieg University of Applied Sciences, things look a little brighter: our percentage is 21.1 percent. "By 2013, we want to increase the percentage of female professors to at least 24 percent," says Equal Opportunities Commissioner Annegret Schnell. In order to get closer to this goal, the seminar series "Green Light for Women Professors" entered its second round in the summer of 2010 with 22 participants. "We didn't expect this kind of response. We now offer double sessions for some of the events" Schnell says.

### Foundations for practical application

Seven seminars, each dedicated to a specific topic, prepare women who hold or are currently working on a Ph.D. for the task of university professor. The seminars teach valuable foundations for practical application later on. The spectrum of topics ranges from "Teaching as a Leadership Task" to "Dealing with Conflict and Holding Your Own" to "Building and Maintaining Networks". One-to-one coaching is geared towards the participants' individual needs – with success. One of the women accepted a temporary professorship at a neighbouring university just two weeks after the seminars began. The series has two main objectives: one, to raise women's awareness that a professorship is a career option for them in the first place.

"Many highly qualified women who work in the business sector don't even consider a university career," Schnell reports. But practical experience is central to a university career. "That makes businesswomen a very attractive target group," Schnell explains. The second goal is to encourage them to apply for open professorships.

The federal state of North Rhine-Westphalia finances the programme from its structural fund "Measures to increase the proportion of female university professors". Annegret Schnell: "Increasing the percentage of women professors is not just something we want to do. It is a concrete mission that has been assigned to us."

<http://gleichstellung.h-brs.de/>





# Campus Tales

## Technical journalists write for Spiegel Online

The stories are as colourful as campus life itself: They feature a student job involving dressing up as a bear in a stuffy costume as well as the dream assignment of development aid worker, young people who are forced to drop-out of university or are deep in debt. Behind this palette of topics is an exciting journalistic project that the Department of Electrical Engineering, Mechanical Engineering and Technical Journalism first launched in the summer term of 2010 in cooperation with Spiegel Online. Eighteen prospective technical journalists were given the opportunity to write an article for the section "UniSpiegel". Business student Roman Przibylla from Cologne initiated the cooperation. He is the founder of the internet portal "born-to-be-reporter" for young journalists, and he made the contact between the "UniSpiegel" and the journalism professors at the university.

In the first week of the project, students were asked to identify a topic and write a synopsis to convince Spiegel-Online editor Christoph Titz. In the second week they researched and wrote their articles. The project highlight in the third week was a visit to the Spiegel editorial office in Hamburg, where Titz discussed the strengths and weaknesses of the reports with the participants.

"The biggest challenge was finding the topics," says Professor of Journalism and Project Coordinator Andreas Schümchen. The students, he reports, responded very differently to the Spiegel-Online journalist's constructive criticism of their synopses. Many took up his suggestions and applied them to their articles; others ignored the advice but ended up producing good stories, anyway – like Nicole Geelhaar. Her article about a young man whose student loan derails his life was published in UniSpiegel Online.

"I have rarely seen a project in which the students were so engaged for the entire time," says Schümchen. He wants to repeat the writing workshop in the near future.

**You can read the published articles by visiting**

[www.spiegel.de/unispiegel/](http://www.spiegel.de/unispiegel/)



### Exploring real-life routine in an editorial office

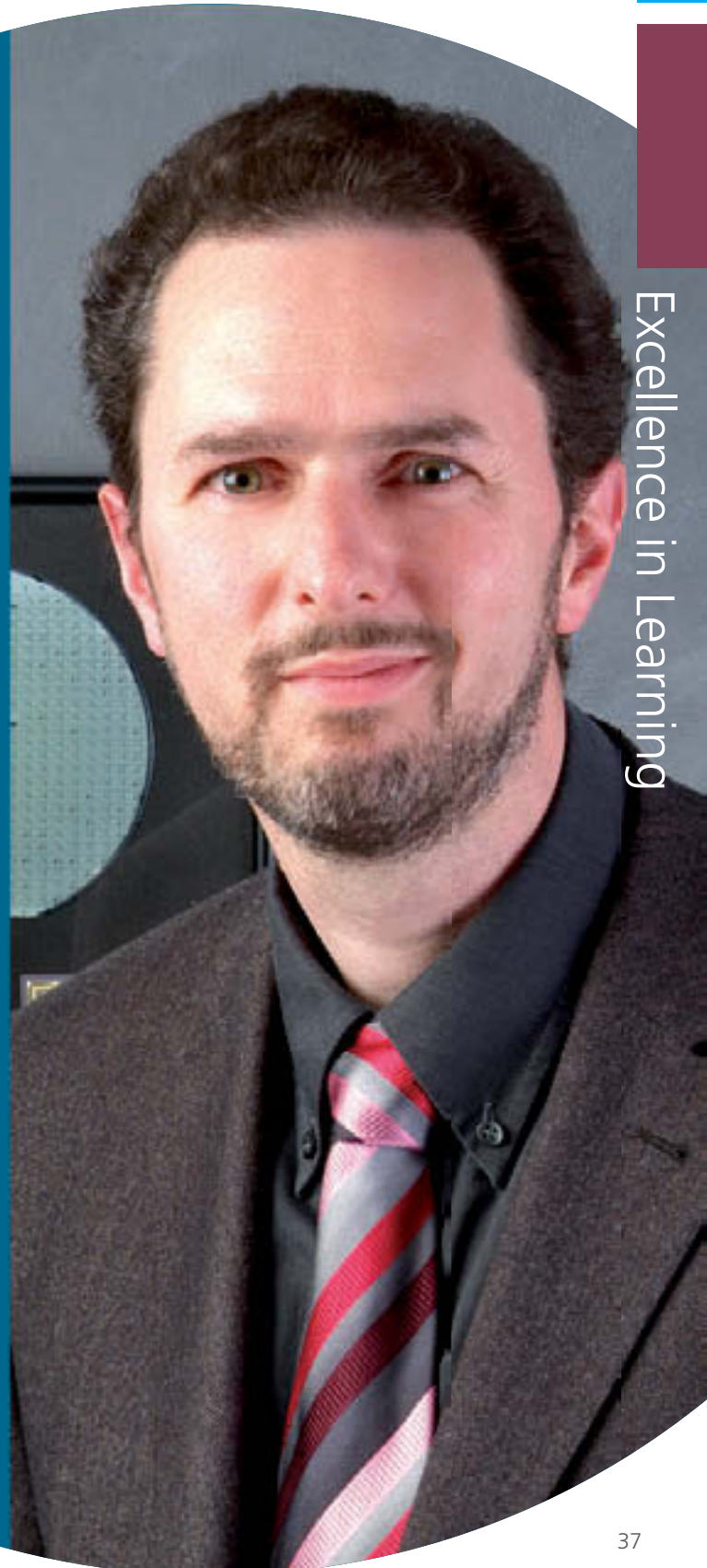
"Yesterday – Today – Tomorrow": the online magazine "technikjournal.de" informs its readers about the entire range of historic, current and visionary technical topics. It is the publishing platform for the programme Technical Journalism. "The aim of this project is to prepare our graduates to meet today's and tomorrow's standards at publishing houses," explains project leader Andreas Schümchen, Professor of Journalism. The buzzword is cross-media work. Journalists and editors are increasingly expected to be able to present a topic as a printed article, moving image or audio clip. "That is precisely what we train with this online magazine," says Schümchen.

At the technical centre of it all is the newsroom. It has twenty editorial desks, six digital cameras, and a small glass video studio. Editors-in-chief, managing editors, editors in charge of the various sections and all other contributors hold regular editorial meetings. They discuss topics, do research, write, edit, and update. This is how students learn about the work processes in editorial offices under realistic conditions. As of the winter term of 2011, the elective "technikjournal.de" will become a mandatory seminar and the backbone of the programme Technical Journalism. "Each student will then join the editorial team of the online magazine for one semester," Professor Schümchen explains.

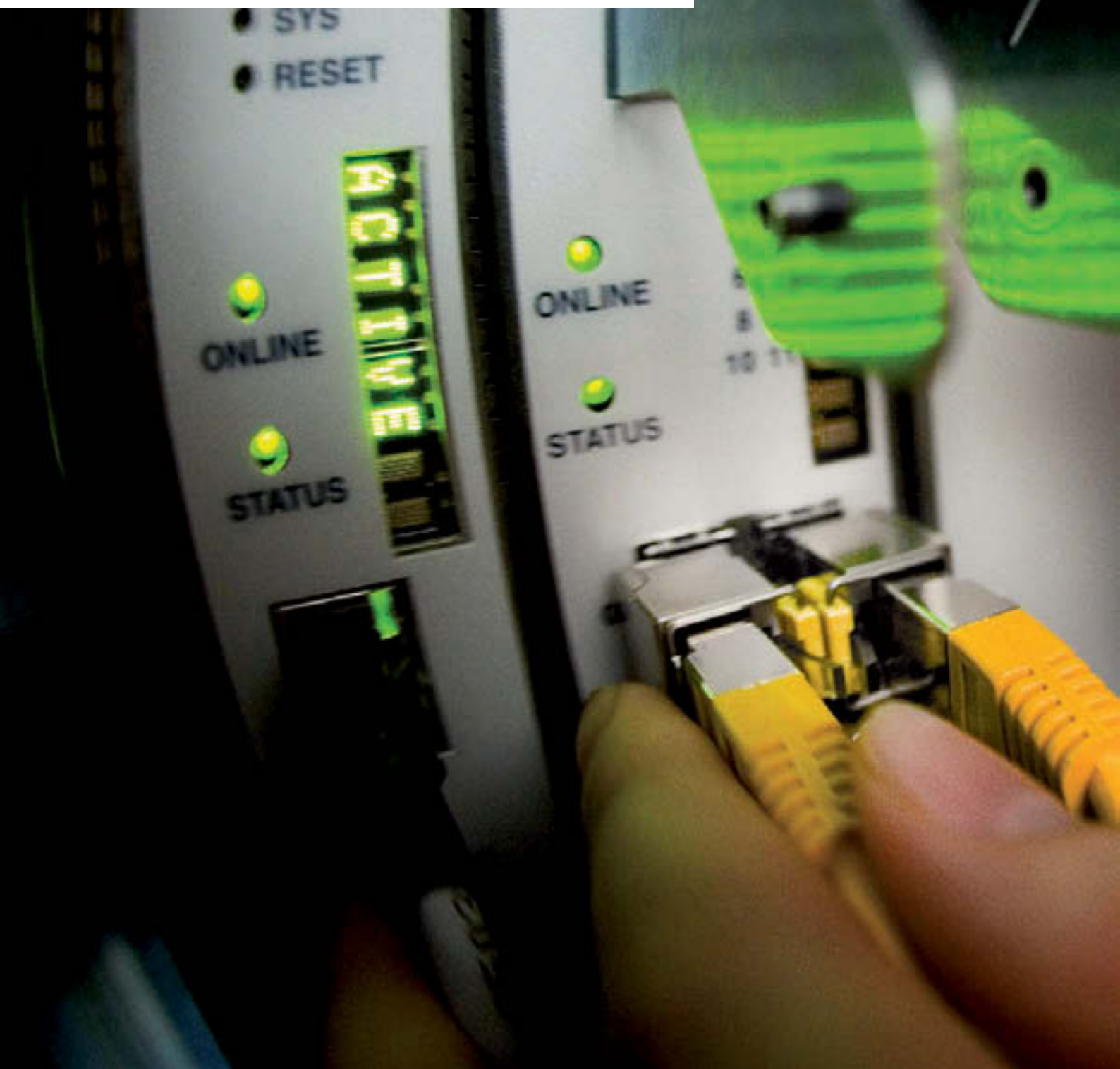
# People

## Learning to teach and to learn – Marco Winzker

Trying out new concepts, taking risks. That, Marco Winzker believes, is what it takes to advance teaching. “Higher education is usually governed by fear of change,” says the Professor for Electrical Engineering. Innovative ideas often run into a dead end. So Marco Winzker got together with higher education theoreticians, managers and other professors to share opinions in the project “Teaching to the nth power”. “Now collaboration is even better,” says Winzker. He already has a track-record of implementing successful new didactic ideas. He played a significant part in shaping the semester structure at the EMT department - four weeks of lectures, seminars and tutorials, then one week for project work. It teaches students a lot about project-oriented work and allows them to apply their new knowledge in practice. The teaching staff is on hand if they have questions. “The concept works excellently – maybe it will inspire other universities to try something new,” Winzker says.



# Strong Research







# Beacon Projects

## Focus on Security Research and Visual Computing

“Universities of applied sciences face stiff competition from traditional universities when it comes to showcasing their research successes,” says Professor Volker Sommer, Vice President for Research and Transfer. And yet, since its foundation, Bonn-Rhine-Sieg University of Applied Sciences has been able to position itself successfully with its very own research profile, attested by third-party funding of seven million euros in the past year. This profile is now to be enhanced further with two new official focus areas. For this purpose, the university will provide funding of almost four million euros over the next five years.

### Evaluators agree unanimously

An external body of evaluators was commissioned to identify these new focus areas. Their recommendation was unanimous: The university should look to ‘Security Research’ and ‘Visual Computing’. “We already have a good deal of competence in these areas,” confirms Volker Sommer. “Now we want to make the necessary funds available to continue developing this high quality, which essentially means financing academic staff and, to a lesser extent, material resources and investments.”

Security Research will be done in the three Departments of Natural Sciences, Computer Science, and Electrical Engineering, Mechanical Engineering and Technical Journalism. Topics range from public security, information security and functional security to workplace and facilities safety. The university has found an important industrial partner in the European Aeronautic Defence and Space Company (EADS). Amongst other things, EADS has endowed a professorship, held by Professor Gerhard Holl, at the newly established Institute for Detection Technologies.

Visual Computing deals with interactive visual information processing, such as visualisation, interactive environments, rendering and computer vision as well as related fields which use these technologies, for example bio and medical information technology and edu- as well as entertainment. Six professors from the Departments of Computer Science and Electrical Engineering, Mechanical Engineering and Technical Journalism are already involved in research on these topics. There are plans to establish a separate Institute for Visual Computing.



# Mobile Police Lab

## Quick tests for gunshot residue speed up investigations

Let's imagine a criminal case in which several people get shot in a restaurant. The police is faced with a puzzle: There are three suspects, who were all at the restaurant, and they all deny the deed. Who fired the shots? A test for gunshot residue could convict the real perpetrator.

Such chemical analyses usually take several weeks, sometimes months. Harald Illges, Professor for Immunology and Cell Biology is working on a new method that would reduce this time to a few minutes. The project is funded by the Federal Ministry of Economics and Technology. Bonn-Rhine-Sieg University of Applied Sciences is cooperating with the Federal Criminal Police Office (BKA) and the Milenia Biotec GmbH in Giessen, which specialises in systems for fast medical diagnoses. For conventional gunshot residue tests, police take samples of skin, hair and clothing from the suspect. The material is then lab-tested for heavy metals that are released when a gun is fired, such as lead, barium, or antimony. Forensic lab technicians use electron microscopes and spectrometers – which are all time-consuming methods.

### Much like a pregnancy test

Much like a pregnancy test, the method developed by Harald Illges and his team does not detect heavy metals, but organic elements in the gunshot residue, in particular diphenylamine (DPA). Skin and clothing samples are taken from the suspects at the scene. The samples are put in a buffer solution, then on a test strip. An antigen will bond with an antibody, marking the tell-tale substance by discolouring the test strip – a simple, economical and quick method. "Police officers will be able to collect evidence of gunshot residue themselves," explains Illges.

The first prototype is planned to be finished by the time funding runs out in mid-2011. It will then have to prove its worth in practice. Probandes have already been identified: Students at a police academy will be tested for gunshot residue after their firearms training session. In addition to the BKA, police authorities in several European countries have already expressed their interest in the product. Once the portable gunshot residue test is ready for use, Illges wants to fine-tune the method.



# Diving for our Senses

## Researchers get to the bottom of our sense of direction

In our daily lives, we do not have to think about where up and down are located, we know intuitively. In some professions, however, you can lose your sense of direction. Divers, pilots and astronauts have to deal with this problem. Why does this happen? Are our eyes deceiving us, or our sense of balance, or our muscles?

### Joint research with Toronto

A team of researchers from Sankt Augustin and Toronto searched for answers – at an indoor water park, of all places. Six probands, all of them trained divers, had diving air cylinders strapped to their backs and then descended into Europe's deepest scuba diving training pool, at the 'Oktopus' in Siegburg. Some metres below the surface, the test subjects were shown a monitor with the letter 'd' or 'p', depending on the orientation, either in front of a grey background or in front of a photograph with a 1950s kitchen scene. The researchers rotated the letters, background pictures and even the probands, who were continuously asked to identify the letters as either 'd' or 'p'.

"We wanted to find out which sensual signals impact our spatial perception," says Rainer Herpers, Professor for Computer Science. The results were amazing: "Our sense of direction is determined by our own position, but once

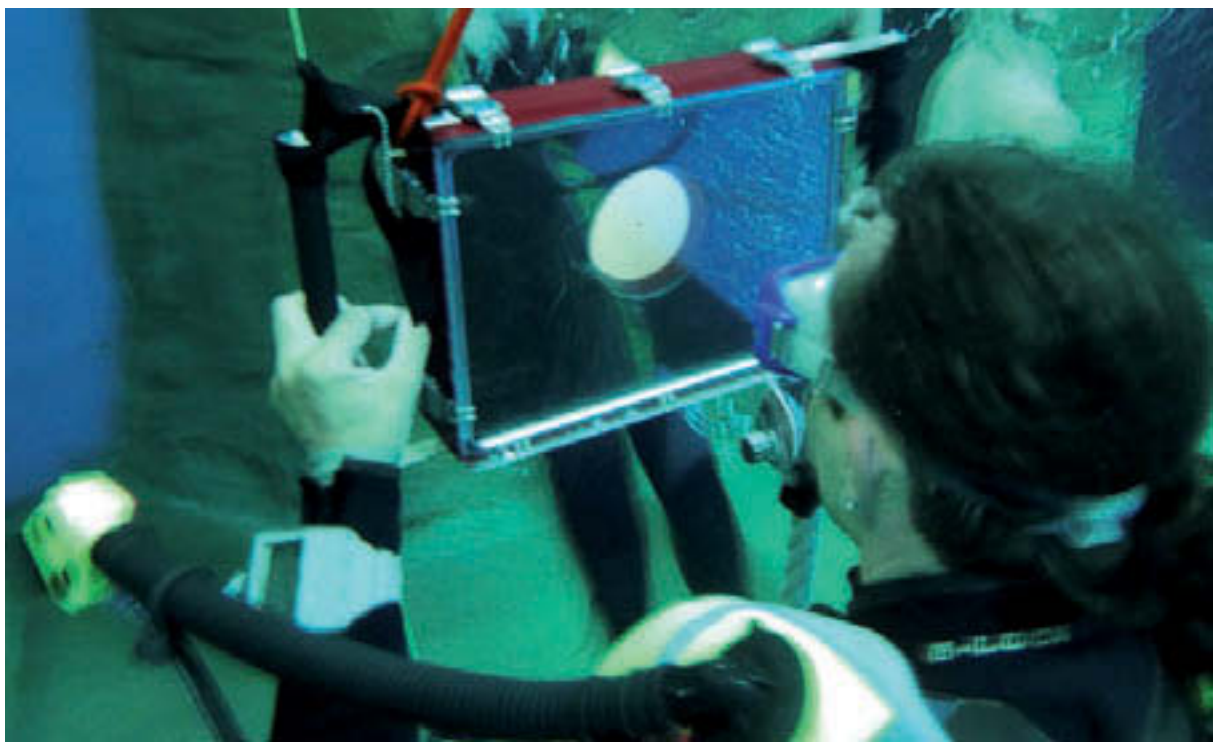
the orientation of the background image does not match that of the letter, we get confused. Some saw a 'd', others a 'p'. Herpers' team showed the same images on dry land – the test subjects were now almost always in agreement.

The researchers want to use this insight in developing virtual environments so they can deal with so-called simulator sickness, which arises when a person moves forward in a virtual landscape while actually sitting on a chair. The senses cannot deal with the contradiction – many people get nauseous.

### Joint project

The diving experiments are part of the joint project 'Perception in virtual reality' between Bonn-Rhine-Sieg University of Applied Sciences and York University Toronto, sponsored by the Alexander von Humboldt Foundation. As well as computer scientists, this project also involves psychologists. The Canadian researchers were the ones who came up with the test idea, and they are currently conducting a similar project aboard the International Space Station (ISS). In 2011, there will be another joint series of tests: Brave probands will be able to put their senses to the test in a centrifuge that is designed for astronaut training.

*What if there's no firm ground under your feet: divers help us understand spatial perception*



# High Security Chip Cards

## Kerstin Lemke-Rust develops new testing standards for more IT security

Credit cards are popular targets for criminals. If an attack succeeds, they can empty entire accounts. This is why many sectors impose high security standards. New security systems undergo extensive testing by professional testing providers and are then subject to clearance by the Federal Office for Information Security.

### Universities and test labs cooperate

And yet, there is no 100% security guarantee. High-tech hackers keep finding the weak spots in the systems. It would take testing labs months – far too long for practical purposes – to test high-level IT security systems for new, resource-intensive forms of attack. This is where EXSET (Excellence in Security Evaluation Testing) comes in, a project by Bonn-Rhine-Sieg University of Applied Sciences, Ruhr-Universität Bochum as well as the leading German test labs TÜV-IT and T-Systems. IT experts jointly develop more effective systems for measuring and analysis, and thus improve standards for security evaluations.

The project is funded under the work programme “IT Security Research” by the Federal Ministry of Education and Research. The idea is to extend the testing procedures currently used for chip cards. Higher-order side channel attacks, in particular, are to be tested routinely in future. Side channel attacks take advantage of the physical characteristics of a security module.

*Not a chance:  
researchers are working on criminal-proof chip cards*

A change in the flow of electric current in a chip card during a cryptographic calculation, for example, can be used by attackers to discover the key on which it is based.

Lower-order side channel attacks are part of the standard testing programme, but not those of higher orders. “Research has produced methods for extensive testing,” says Professor Kerstin Lemke-Rust from the Department of Computer Science, who is the project coordinator for EXSET. “We are looking for efficient ways of integrating them into actual practice in the testing labs.”

The researchers use parallel graphic card clusters - this accelerates side channel analyses by a factor of 100. “Our aim is to reduce testing times to a few days,” Kerstin Lemke-Rust says. If the researchers can make this new method work in practice, criminal organisations are in for hard times.





14:42

Rheinbach Campus

Prof. Jianxiong Chao  
Department of Business Administration Rheinbach

“The partnership between the University of Hunan and and Bonn-Rhine-Sieg University of Applied Sciences facilitates the exchange of ideas.”



# Biting Down Hard

## Bernhard Möginger develops real-time analysis of dental fillings

You have toothache, and your dentist recommends a synthetic filling. As a patient, you hope you will be able to bite down hard again, and that it will last a long time. Manufacturers of dental fillings are continuously trying to improve the materials they work with. However, this is a time-consuming process. A new synthetic material has to undergo extensive testing before legal licensing procedures can begin.

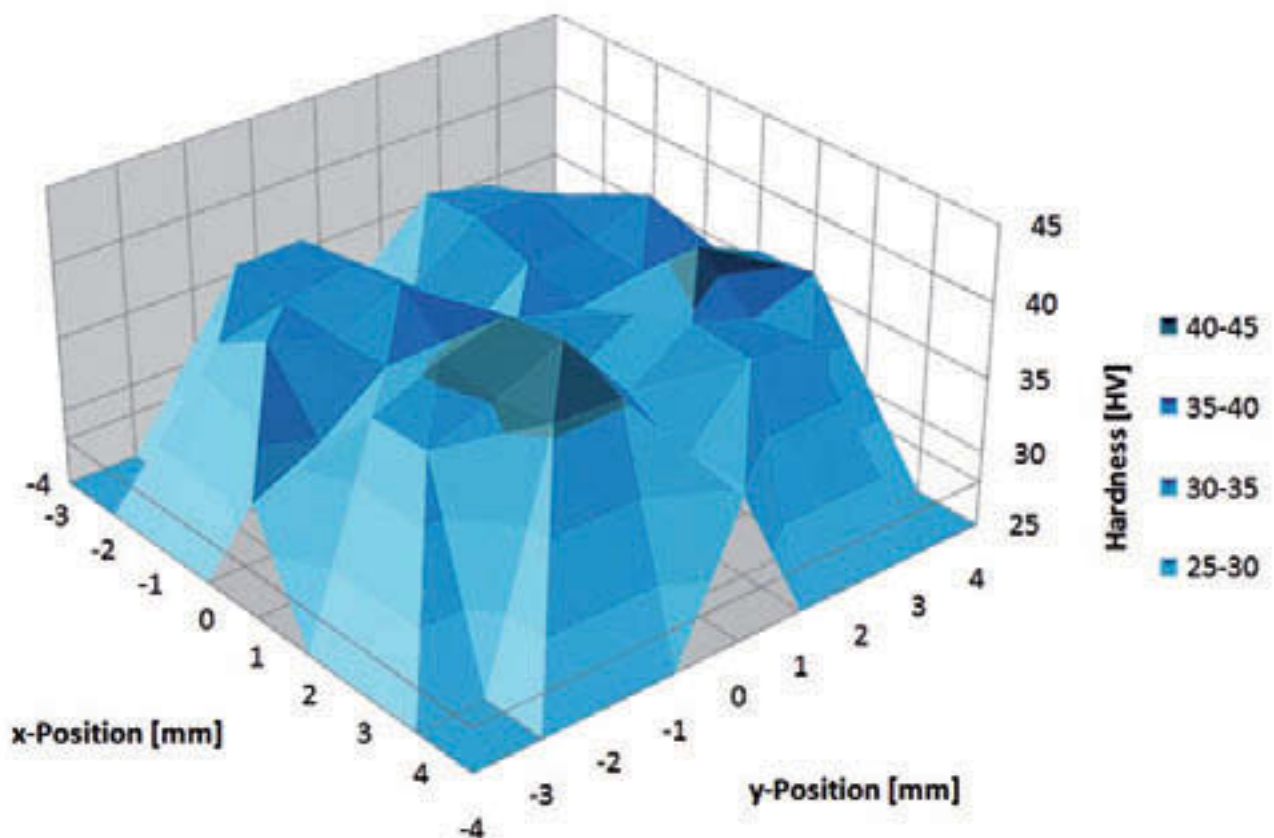
### Predicting mechanical properties

This process is now to become easier for companies. Professor Bernhard Möginger from the Department of Natural Sciences is developing a standardised testing procedure for the cure behaviour and modelling of duroplasts – synthetic materials which harden when they are exposed to light. Up to now, manufacturers have analysed their materials using infra-red spectrometry, which has the disadvantage that it only allows for analysis close to the surface.

Möginger and his team are working on a dielectric procedure to make cure behaviour observable in real time. “We want to be able to predict the material’s mechanical properties during light exposure,” says the physicist. It will then be possible to simulate the impact of the different elements of the material so that new duroplasts can be custom-made more quickly.

The project is financed by federal funds from the programme “Research at universities of applied sciences in co-operation with industry” (FhprofUnt). The partners in the programme are VOCO, a manufacturer of dental fillings in Cuxhaven, and tool building company Netzsch Gerätebau in Selb, as well as the Universities of Bonn, Regensburg and Zlín in the Czech Republic. The procedure will be of interest beyond the dental sector. Duroplasts are also used in the rudders of the Airbus, in car construction parts and protective helmets.

*Hard facts: changes in the properties of polymers can be examined live*



# The Ethical Merchant

## Anchoring values in management training

**Dr. Thomas Krickhahn is a research associate at the Department of Business Administration in Rheinbach and a free-lance lecturer in business ethics**

*You organised a conference on “Values and Attitudes” in 2010. How did this come about?*

I'm an economist and social scientist. Sustainable development for business is both my own research focus and that of the department. We train young people for business careers, so we wonder how we can raise their awareness for values. At the same time, I wanted to use this conference to build an interdisciplinary network of experts in research and in business, so we can do long-term research in this field. It succeeded.

*Which values does society expect from entrepreneurs?*

Businesses are expected to create viable jobs and generate incomes, produce goods and services, pay their taxes and take on non-profit causes. They are supposed to show commitment to their communities and donate money or resources. Value-oriented and responsible actions pay off for companies, they enhance their image.

*Why should values be integrated into the curriculum?*

In Business Administration, we talk mainly about producing goods and services economically. But in doing so we also generate costs to society, for example waste materials or unfair working conditions. Governments can regulate a lot of things, but in reality, we go by 'What's not illegal is allowed'. Values go much further than regulations. If fairness is your way of life, you act differently from people who simply fear penalties. Today, business students are not generally exposed to this kind of issue.

*How can a university instil values?*

Studying at a university in itself is a socialisation process that shapes people. On the one hand, this means we can act at the institutional level, offering courses on business ethics, assigning appropriate topics for final theses, arranging work experience in the social sector. On the other hand, we can lead by example. Each member of the university ought to live by the values we're striving for. The university can work towards this in its recruitment policy or by offering relevant professional development opportunities for its faculty. Not least, the university leadership can help impart certain values by creating a very family-friendly environment for its staff, for instance – as is the case at Bonn-Rhine-Sieg University of Applied Sciences.



## The two sides of the coin

Our international orientation is well suited to our plans to intensify research here at Bonn-Rhine-Sieg University of Applied Sciences. University research is international in its very nature, not just because it seeks to solve global problems such as climate protection. Application-oriented research in cooperation with small and medium-sized enterprises in the region also has to take into account the global markets of these companies and, for example, work with international patents. Many researchers at this university are internationally connected, use international exchange programmes and work successfully in EU research programmes.

Building the Graduate Institute will engender further international collaborations with universities abroad and bring highly qualified Ph.D. candidates into our research projects. I expect that research activities at the International Centre for Sustainable Development will have similarly positive effects on the international orientation of our research.



**Prof. Dr. Volker Sommer**  
Vice President for Research and Transfer



# The Formula Behind the Flow

## Mathematician develops algorithms for complex flow patterns

A realistic scenario: A cargo ship capsizes on the River Rhine and chemicals leak from its tank. In order to avoid major damage to the environment, authorities must know as precisely as possible how the substance spreads. This is where higher mathematics kick in. Determining the concentration, water levels and flow speeds alone is not enough. The data has to be linked together logically – using so-called numeric simulations.

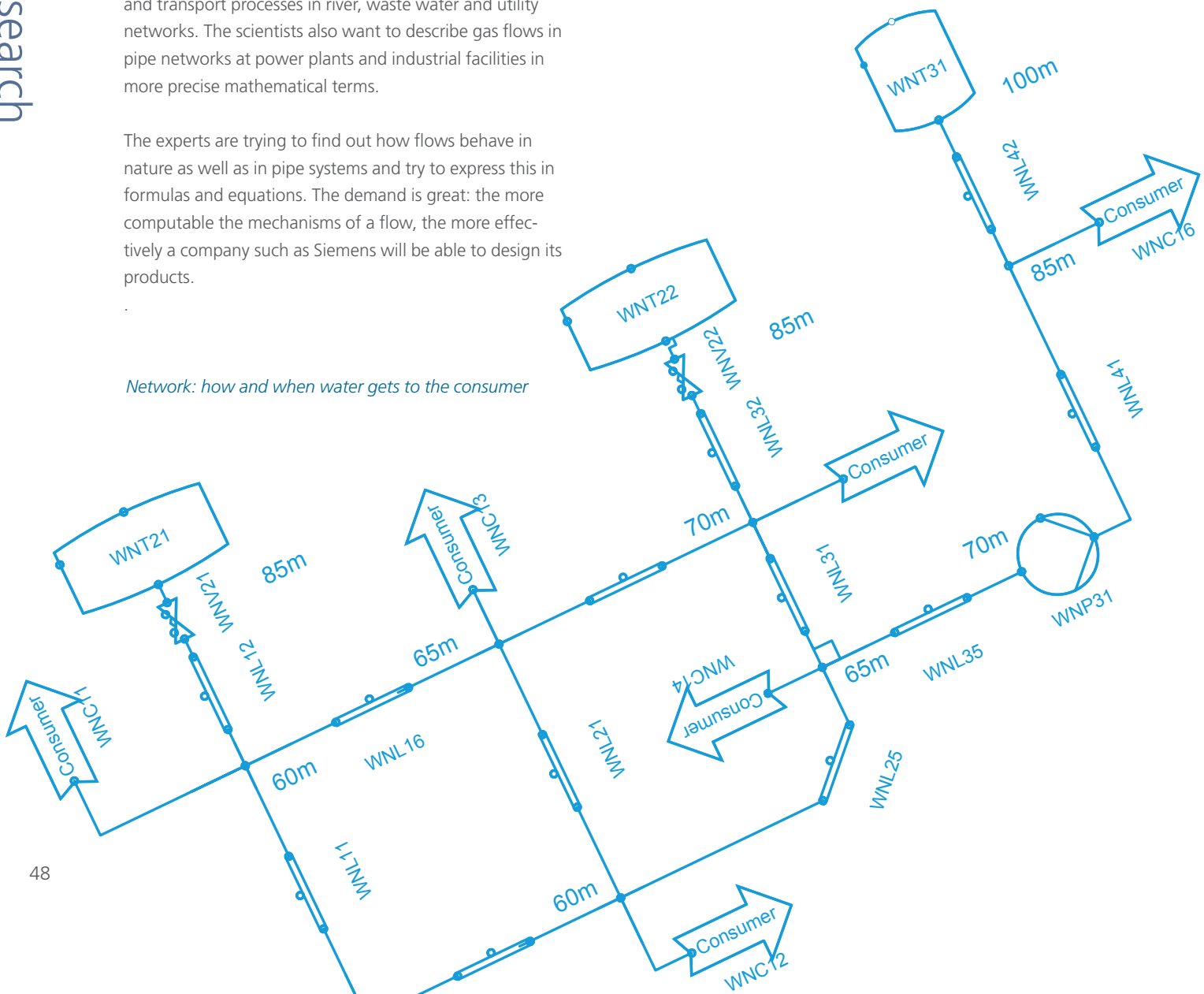
One of the leading experts in this field is Professor Gerd Steinebach, mathematician at the Department of Electrical Engineering, Mechanical Engineering and Technical Journalism. In cooperation with fellow researchers at TU Munich and Martin Luther University, Halle-Wittenberg, as well as Siemens AG, he develops numeric models for flow and transport processes in river, waste water and utility networks. The scientists also want to describe gas flows in pipe networks at power plants and industrial facilities in more precise mathematical terms.

The experts are trying to find out how flows behave in nature as well as in pipe systems and try to express this in formulas and equations. The demand is great: the more computable the mechanisms of a flow, the more effectively a company such as Siemens will be able to design its products.

### Early flood warning system

For Gerd Steinebach all this is “intrinsicly motivated research”. Water has been his element for some time. Current water level forecasts for federal waterways in Germany are largely based on his methods. He developed them when he was a member of the scientific staff at the Federal Institute of Hydrology in Koblenz – a sort of early warning system for floods. The current studies are not third-party funded and therefore not subject to any time constraints. “They are something along the lines of my perennial task,” says the mathematician who has been integrating junior researchers into his quest since 2011. One student per year in the Master’s programme in mechatronics works on a project on the theme “Building models and numeric simulation of channel and pipe flow problems”.

Network: how and when water gets to the consumer



# Good Noses for Tomorrow

## New institute develops and evaluates detection technologies

Terrorists like to hide explosives in everyday objects such as suitcases and travel bags. An unattended piece of luggage at an airport frequently puts the entire security personnel on high alert. The Institute for Detection Technologies, founded at Bonn-Rhine-Sieg University of Applied Sciences in 2010, evaluates and optimises existing technologies and develops new methods for future solutions that will make it easier to detect this kind of bomb.

### Security screening at airports

Important technologies such as powerful laser systems and portable chemical analysis kits are already in use in industry. "We want to combine and modify existing technologies in such a way that they can be used in highly sensitive areas such as airport security," says Professor Gerhard Holl, who co-heads the Institute together with Professor Peter Kaul.

Security Research is to be a future research focus at Bonn-Rhine-Sieg University of Applied Sciences (cf. p.38). In this field, the university collaborates with partners like the German military or the aerospace and military concern EADS.

EADS has endowed a professorship for the foundation of the new Institute – held by Gerhard Holl.

The chemist considers technologies such as sensor network systems or "living biosensors" (meaning explosive detection dogs) as the research focus of his institute. "There is not enough research in this field so far, even though, in practical reality, we still can't do without dogs as mobile detectors," Gerhard Holl explains. The institute is going to explore how animals can be better trained for sniffing out new chemical threats and be integrated into future security scenarios.

### Institute for Detection Technologies in Rheinbach:

<http://fb05.h-bonn-rhein-sieg.de/IDT.html>



# Resistance-Free

## Research partners develop tomorrow's power cables

A light-bulb heats up when in use. This is due to the phenomenon of electric resistance which eats up part of the energy. The same happens in the thick copper cables that transport electricity over land. The future therefore belongs to so-called superconductors. These are materials that conduct electricity virtually loss-free under intensive cooling. The Department of Electrical Engineering, Mechanical Engineering and Technical Journalism at Bonn-Rhine-Sieg University of Applied Sciences has been working on the power lines of the future since the beginning of 2010 in the project "Suprametal", a cluster that includes ThyssenKrupp VDM GmbH, Zenergy Power GmbH as well as three regional universities.

### Flexible ceramic cable

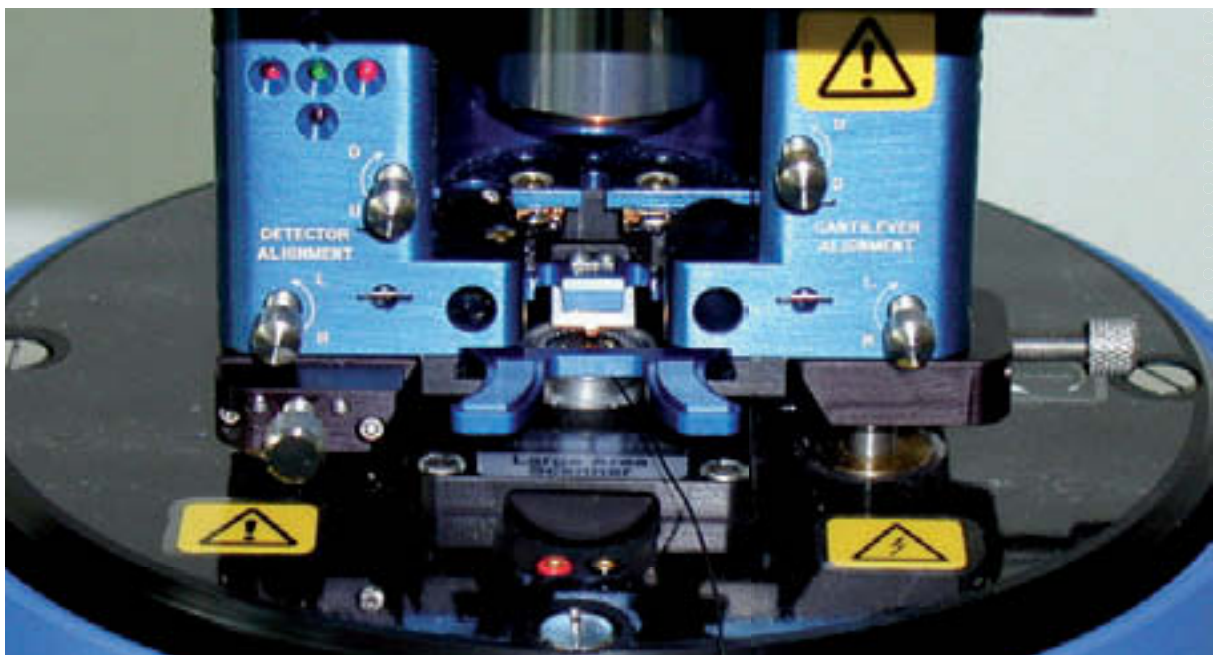
The problem with metal superconductors is cooling. Only expensive liquid helium can maintain the temperature below the maximum of minus 250 degrees Celsius. So-called high temperature superconductors, on the other hand, consist of ceramics and can be operated at a much lower cost. They can be cooled to minus 196 degrees Celsius with the help of liquid nitrogen. "However, the challenge here is: How do you make a flexible cable out of ceramics?" Sabine Lepper, Professor for Materials Research explains.

### Profitable partnership

The project partners in "Suprametal" are working on a joint solution. ThyssenKrupp VDM makes an extremely smooth and flawless metal band. Rheinbach-based company Zenergy Power coats it with ceramics, first ultra-thin buffer layers, topped by the superconducting layer. The University of Bonn examines the finished material down to its very atoms using high-resolution transmission electron microscopy. Metal specialists at RWTH Aachen University simulate, among other things, the processes that would apply to large-scale industrial production. Sabine Lepper is in charge of quality control of the surface, which is analysed through to nanometre scale using atomic force microscopy.

Everyone benefits from this partnership: Industry wants to develop a new product, but is unable to work on such a complex theme on its own. "We need the competence of the universities, too," says Nicole de Boer, project manager at ThyssenKrupp VDM. The University of Applied Sciences, on the other hand, profits from contact with industry, according to Sabine Lepper: "Networking broadens your horizon. We get new ideas." The benefit for students: application-related topics for final theses and interesting work placements.

*Quality control: using atomic force microscopy, superconductor surfaces can be examined at the materials research lab*



# People

## Explosives specialist – Peter Kaul

Detecting explosives safely is a task that requires skill. The product that Professor Peter Kaul and his research team conceived makes it possible to train explosive detector dogs and to test detectors easily and safely. Their “genuine material micro-amount testing devices” are odourless containers made of aluminium foam containing very small amounts of different explosives – enough to set a dog on the scent or test a detector, but not enough to pose a real threat. The “genuine material micro-amount testing devices” are already in use and are being marketed commercially.

For his work, Peter Kaul received the university's first ever Innovation Award in 2010, valued at 5,000 euros. “When dogs sniff out explosives, they just follow their play instinct – well, research is very similar,” Kaul admits. He leads the research area “Security Research”, together with Professor Norbert Jung, and the Institute for Detection Technologies, together with Professor Gerhard Holl. “The University Innovation Award is an incentive to implement new ideas and projects.”



Strong Research



# Vibrant Campus







# A Massage Between Classes

## Something for everyone at the first "Health Day"

Spinning bikes, wellness services and fitness check-ups are not normally part of a student's daily routine. But every student hopes he or she will remain "fit through university". So Bonn-Rhine-Sieg University of Applied Sciences organised an unusual offer under this very motto at its Hennef location. Students and staff had the opportunity to try out different sports or get a massage between classes, have a drink from the non-alcoholic cocktail bar – and go to their next class relaxed and refreshed.



It was not only the students' general fitness that was put to the test, but also their eating habits. Students said no to junk food and instead were served delicious, and most importantly, healthy and nutritionally balanced treats. "Nutrition plays a major role in a student's well-being," explains Vincenzo Cusumano, a member of staff at Bonn-Rhine-Sieg University of Applied Sciences with special responsibilities and coordinator of the fitness event.



The German Red Cross also ran a blood donation session at the Health Day: 53 donors gave blood, 44 of them had never done so before. "This was my first time but, as it was a good experience, certainly not my last," said Florian Naumann, President of the Student Council in the Department of Social Security.

The Health Day was a joint event by the department and students, who brought their ideas to the table and organised many of the events themselves. "The Health Day was awesome. I was thrilled about the students' commitment," says Florian Naumann. The event was sponsored by health insurance providers such as the AOK, Techniker Krankenkasse and the Deutsche Gesetzliche Unfallversicherung.

### Family-friendly university

#### Certified until 2013

Laughing children and happy parents. That is the goal of family-friendly Bonn-Rhine-Sieg University of Applied Sciences, which it attained once again in 2010. The university is unconditionally entitled to label itself "family-friendly university" until May 2013. The credit for this goes to Commissioner for Equal Opportunities Annegret Schnell and her team, who developed new ideas and additional offers to be re-certified for this very prestigious label. The university's family-conscious philosophy translates into flexible and individualised working hours for staff, a parent-child work room, childcare services and holiday play schemes for children. These offers are very popular with students and staff.

Bonn-Rhine-Sieg University of Applied Sciences has held the certificate "family-friendly university" since 2007.



# Boys' Day at the Sankt Augustin Campus

## Boys broaden their career perspectives

"All" boy or "all" girl – when it comes to choosing a career, young people stick with traditional models. More than half of male apprentices opt for one of twenty 'typically male' careers, which do not include a single occupation in the social field, education or nursing care. In order to teach them about female careers, Bonn-Rhine-Sieg University of Applied Sciences participated in the 2010 "Boys' Day". As one of 150 partners in the nationwide project "New Paths for Boys", it opened its doors to middle school students on 22 April 2010.

Sixty boys and young men attended the various workshops in the administration, the language centre, the library and in the Department of Social Security. These are the parts of the university that employ a significant majority of women. This is supposed to change, because social professions would welcome more males just as technical professions want to encourage more females. "Our university was founded as one that particularly accommodated women, and has, in the meantime, evolved into one that accommodates everyone regardless of gender or family situation. Therefore, it was clear that we wouldn't just show girls how to get off the beaten track, but boys, as well," says Monika Sarrazin-Comans, a manager at the university's Equal Opportunities Office.

### Girl's Day already a tradition

Even though Girls' Day, held annually since 2003, offered more places, Monika Sarrazin-Comans was pleased with the response to Boys' Day. "Teachers are key here, they can inspire students by showing interest themselves," she comments. From 2011, Boys' and Girls' Days will take place on the fourth Thursday in April.





# Competition Between Friends

## International Sports Festival on the Bosphorus

Tennis, volleyball, football, table tennis and badminton - students from Bonn-Rhine-Sieg University of Applied Sciences demonstrated their athletic skill at the International Sports Festival at the Bosphorus University in Istanbul. Students from all over the world, from Belgium via the United States to the United Arab Emirates competed in 14 disciplines.

### It's the spirit that counts

This was the 30th Sports Festival at Bosphorus University, and students from Sankt Augustin joined the event for the first time, with financial support from the university. "Selection had to happen very quickly, because we were invited at short notice," says Daniel Gilbert, athletic director of the students' union executive committee. "Most participants were chosen by lottery. But we did insist on holding a try-out match for the football team."

Athletes from almost all departments travelled to Istanbul. "The competition was exciting," says footballer Marc Delfosse. But getting to know and interacting with the students was just as interesting. "Today's students must network internationally. You can do that in the lecture hall or on the football pitch," says President Hartmut Ihne. From a sporting perspective, there is still room for improvement. In 2011, the university team took home one bronze medal in table tennis.

In the coming semesters, AStA wants to set up permanent football, basketball and volleyball teams that will practise regularly and perform well as teams. "And in the individual disciplines, performance will be the benchmark for getting a ticket to Istanbul," says Daniel Gilbert.

*International competition: athletes from almost every department competed in Istanbul*



# Camera, Sound, Action

## Studio team advises on every production on campus

“Camera 2, wide shot!” Everyone involved must know precisely what to do so work at the Sankt Augustin campus studio will run smoothly. Therefore, the university studio team, consisting of media designers and students in the programme Technical Journalism/PR, familiarises itself with the studio facilities under the instruction of Studio Director Manfred Bretz.

The future journalists meet every other Tuesday, and also attend tutorials in which the media designers answer each question in-depth. “The best technology is useless if no-one knows how to operate it,” says Ramona Plaspohl, prospective media designer for image and sound. Students learn more than theory, they also apply it immediately.

“We are creating good foundations for our professional future,” says Jan-Henning Niedeck. He is in his fourth semester of Technical Journalism. When students produce something at the studio, studio team members are almost always there to give them help and advice. “Some local and regional broadcasters would be ecstatic to have such equipment,” Stefan Klager praises the professional facilities in the Sankt Augustin studio. Klager is CEO of a production company and produced a television show with the students in the winter term. “It would be foolish not to use what we have here,” says Jan-Henning Niedeck.



## Spending tuition fees wisely

### New academic foundation established

There were no student protests at Bonn-Rhine-Sieg University of Applied Sciences when tuition fees were introduced, because the university worked closely with the students to find sustainable ways of using the revenue. An academic foundation was set up under the umbrella of the ‘Stifterverband für die deutsche Wissenschaft’ (German donors’ association). Its objective is to promote education.

The seed capital of 750,000 euros comes from tuition fee payments that have already been made. In future, this fund will be used to provide scholarships for successful students and financial support for individual projects. What or who exactly will benefit will be decided by the university leadership together with students. The executive board of the foundation will be composed of three university and three student representatives who will make their decisions on a basis of equality.

15 : 34

Sankt Augustin Library

Joachim Linden  
Head of Department for Acquisition and Indexing

"We don't speak all the languages in the world here, but we do provide you with everything you need to acquire some."







# Johnny Learns Something New Every Day

## Robots could soon be shaping our daily lives

Taking an order and serving guests what they ask for is a task at which many a human waiter has failed. But not Johnny Jackanapes. The robot has learned the knack and does its job well. It is also able to detect its guests' emotions and plays music to match their mood.

Nine students in the Master's programme Autonomous Systems, six research associates and two professors form the university team b-it-bots. They took on the challenge of building, programming and taking care of Johnny, who is an integral part of the Autonomous Systems programme. "Each of us is in charge of a different part of the robot," says Ronny Hartanto, graduate of the programme and research associate.

### *Global excellence:*

*university team b-it-bots and their robot Johnny Jackanapes*



Navigation and speech or face recognition are just some aspects of a robot's life. All the pampering of Johnny has paid off: The robot did extremely well at national and international RoboCup championships.

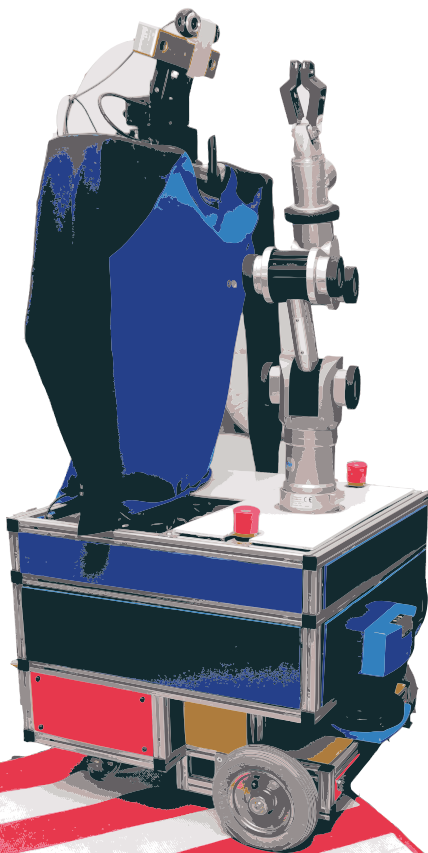
### From footballer to home help

Originally, robot teams played football against each other in these competitions. Sounds like a fun game, but the underlying rationale is to find out whose programming works best. Scientists also use the RoboCup as a venue to share their experiences of working with artificial intelligence.

In 2010, Johnny won the German Championship for the second time in his category @home, in which robots demonstrate their abilities as service personnel. They must be able to receive instructions via speech recognition, identify and recognise faces, remember where objects are located and transport them. While doing all this, they must avoid bumping into furniture and getting lost.

### Waiters and lifesavers

The b-it-bots team was also successful at the RoboCup World Championship in Singapore. Their waiter scenario, which involves an emergency where Johnny must rescue its guests from a kitchen fire, convinced the jury and won them third place. It was yet another achievement in the team's string of international successes: It has not left a single competition without an award.



# Knowledge is Power

If you know how much you use, you automatically make savings

In Rheinbach, the university is testing a new energy saving concept called energy monitoring, which is supposed to increase 'energy awareness'. It is quite simple: "We make users more aware of their daily consumption," says Director of Studies Gerd Heinen, one of the project leaders at the university. Electricity meters provide data which is displayed on monitors on campus and on the intranet.

This way, everyone always knows how much he or she is consuming. "Users then reduce their unconscious energy consumption," observes Wolfgang Prinz, Project Leader at the Fraunhofer Institute for Applied Information Technology FIT.

## 25% in energy savings

Studies showed that increased awareness can lower energy use by as much as 25% – an opportunity that the university wants to seize. "Compared to other universities, energy use in our buildings is pretty efficient," says University President Hartmut Ihne. Still, keeping con-

sumption as low as possible is always worthwhile. Any money that is not spent on energy can be used much more meaningfully for teaching and research.



## Please have a seat

### Lisa Ortgies: "Sofa Guest"

Everyone was mesmerized by the author with the perky curls and listened intently to her TV-trained voice. Lisa Ortgies, host of frauTV on television channel WDR, was the celebrity guest on the library sofa in November 2010. She read from her book "Home Game: Making a Case for the Emancipated Family", which deals with clichés and role behaviour that seem to be hard to shed. Ortgies, working mother of two, is only too familiar with the double burden she writes about. Her solution: sharing the load fairly between men and women.

The TV host's reading was the kick-off event for a series run by the university's Commissioner for Equal Opportunities with the title "Thinking about Tomorrow Today".

The "Sofa Guest" is organised by the university and regional library Bonn-Rhine-Sieg in cooperation with the local bookshops Bücherstube Sankt Augustin and Buchhandlung Kayser in Rheinbach, as well as the newspaper General Anzeiger.



# It's All a Show

## Improvisation in Sankt Augustin

Professor Christoph Zacharias teaches and researches at the Institute for Business Start-Ups and the Promotion of Medium-Sized Businesses. In the winter term of 2009/2010, however, he expanded his job profile in an unconventional manner, starting an improvisation theatre at the university.

The idea had been on his mind for some time, but he had not expected the students to be so motivated: "I just once mentioned in a seminar that I would love to have an improv theatre at the university, and the students jumped at the opportunity." The theatre was an immediate self-seller.

### Role playing boosts confidence

About ten students and staff rehearse regularly. Acting and rehearsing on stage is fun and has a beneficial side effect. Role playing boosts confidence and trains public speaking which is useful for presentations at university or in professional life. Theatre also encourages character development, Professor Zacharias believes. "Actors go beyond their limits and are creative. It teaches them a lot about themselves and others." He wants to recruit more actors, because a larger cast would allow him to create more complex scenarios.



"We play a chaotic, continuously changing shared student house with a corner bistro," Christoph Zacharias explains. "The more people there are, the faster the pace of the scenes." It is all improvised, but rehearsals are far from random. They never start without a few warm-up exercises for body awareness and voice. Then the actors immerse themselves in the given situation and from then on, only two rules apply: never stop moving or talking.

## Innovation – internationalisation – new funding tools



We all know the importance of innovation for growth and prosperity in countries like Germany. But what does innovation mean to developing and emerging countries? Where does innovation happen there?

What are national innovation systems like, what are their strategies, and what does that imply for countries that support them, like Germany? Bonn-Rhine-Sieg University of Applied Sciences has many answers to these questions. We are working on tailoring our answers



to specific national innovation systems and adapting to conditions on the ground in each country. There is a broad array of innovative funding tools to improve the quality of life in these countries, ranging from charity lotteries to online auctions of second-hand articles. These types of innovative funding tool pave the way for eco-social projects and business start-ups. Thanks to our application-oriented outlook, our university can provide support in numerous ways.

**Prof. Dr. Reiner Clement**

Vice President for Innovation and Innovative Funding

# The World at the Rheinbach Campus

## International Action Day at the Department of Natural Sciences

On the "Out of Campus Day", students of biology, forensic science and chemistry at the Rheinbach campus encounter the novel, the curious and the odd as well as the familiar. This is where international students meet those who plan to go abroad. Students and staff travel the world, ready to leave the familiar behind and engage with the unknown.

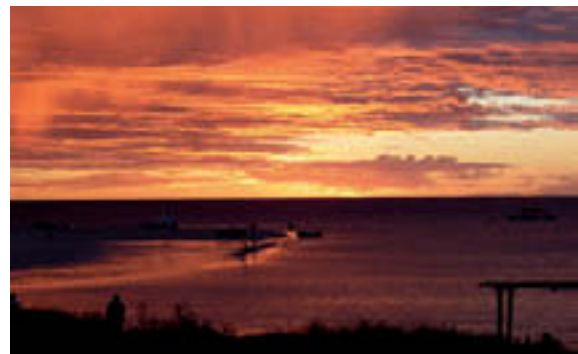
Since 2001, the "Team International" and the Student Council of the Department of Natural Sciences have organised the "Out of Campus Day". "We want to inspire our fellow students to discover other countries, and at the same time welcome our international guests here," says Daniel Bremmerl of the Student Council for the Department of Natural Sciences.

On 30 April 2010, guests were also able to travel the world in a culinary sense: Students demonstrated their talents as chefs, preparing specialities from their own countries or from places they had stayed. From American pancakes and sandwiches via Spanish Tapas to Injera, a special kind of flatbread from Ethiopia and Eritrea that is served with different sauces – the variety was boundless.

### Photographs "On the Move"

The department's "Team International" showcased more than 50 photographs from different countries in the exhibition "On the Move". "The pictures and picture sequences tell us about faraway and not so faraway countries; they reflect the experiences and personal recollections of the photographers," says Jana Schuster of the Team International. At the same time, they illustrate how the international students see their new home in Rheinbach and Germany, and what it means to be "on the move".

#### 1<sup>st</sup> prize



*Jessica Krupp, BScFor student*

"This pic was taken in Coral Bay, Western Australia at the Ningaloo Reef. This picture is a reminder of one of my last evenings in Australia."

#### 2<sup>nd</sup> prize



*Annette Menke, FB05, member of staff*

"Sadhus in Pashupatinath, Kathmandu, Nepal. Just a little bit above the cremation site in the Nepalese capital they sit there greeting passing travellers with a friendly wave."

#### 3<sup>rd</sup> prize



*Katharina Borczuch, BScBio student*

"December in Scotland. Mountain biking in Ballater, a two-hour bus drive away from Aberdeen. A magical world; sprinkled with crystals made of ice ..."



# People Are at the Heart of What We Do

## AStA members work for social causes

Whether it is student loans, Bafög government funding, or the semester ticket for public transport, the Allgemeine Studierendenausschuss (AStA) – the students' union executive committee at Bonn-Rhine-Sieg University of Applied Sciences – will lend its ear to any student concern. But the students' union is not only involved in university-related matters, it also places great emphasis on social issues each year. "We want to help where it is needed and raise students' awareness for these issues," explains Mark Prokaska, AStA President at Bonn-Rhine-Sieg University of Applied Sciences.

"Help us help," was the slogan of the Sankt Augustin blood donation session, which AStA organised in cooperation with the German Red Cross blood donation service. A total of 35 students and staff signed up. "A good turnout, even though not everybody was able to actually donate due to health reasons," says Sascha Friedl, officer for social issues at AStA.

World Aids Day on 1 December 2010 prompted members to remind their fellow students in Rheinbach, Sankt Augustin and Hennef about HIV and AIDS and inform them about new facts. They handed out brochures as well as the so-called AIDS ribbons. A great outcome: They were able to raise 643.70 euros in donations for 500 AIDS ribbons.

### *Social engagement: AStA raises awareness of public welfare*



### Potential life savers

As always, the German Bone Marrow Donor Centre (DKMS) held its annual bone marrow typing campaign at Rheinbach in 2010. "The DKMS campaign is now a tradition at the university," says Sascha Friedl. The typing campaign has met with great interest on the part of the students for many years. In 2010, 70 new donors could be registered in the database as potential life savers. "We are always thrilled that the students are so engaged, and hope to get just as much support next year," says Mark Prokaska.



# People

## Health conscious – Vincenzo Cusumano

30-year-old Vincenzo Cusumano's career has taken him from student to member of staff with special responsibilities. But what exactly does 'member of staff with special responsibilities' mean? An example: In 2010, Vincenzo Cusumano launched the first Health Day at Bonn-Rhine-Sieg University of Applied Sciences. "The university wants students to feel well. That was precisely the aim of this special event," says research associate Vincenzo Cusumano. He knows what he is talking about: In May 2010, he obtained his Master's degree in Health Administration from the Department of Health Sciences at Bielefeld University. His Master's thesis dealt with "One university for all – diversity management as a challenge to health promotion at German universities" and earned him an award from health insurance provider Techniker Krankenkasse Westfalen-Lippe for an 'outstanding final thesis'.





# Partners in the Region









# Available: Idea, Wanted: Client

## Start-up company BYPA at the BusinessCampus

The idea is great – but is it marketable? That is the question all young entrepreneurs have to ask themselves. Experts have attested to the viability of Birol Yildiz' and Pouya Azimi's idea. Their company BYPA (an acronym of their first and last names) at the BusinessCampus of Bonn-Rhine-Sieg University of Applied Sciences has won multiple awards. In 2010, the young entrepreneurs participated in the two-stage business start-up competition "New Entrepreneurship Cologne". First, they made it into the top 15 out of some 200 applications. Then they entered the second round with a finely-tuned concept and ended up in the top ten of 86 contestants. "The positive feedback was very important to us," says Birol Yildiz, a graduate of Computer Science at Bonn-Rhine-Sieg University of Applied Sciences. It was the topic of his Master's thesis that gave the 27-year-old the idea for his own business. Together with his friend Pouya Azimi, who obtained his Master's degree in International Management in Barcelona, he founded BYPA in Sankt Augustin.

### Automatically notifying the best expert

Their product is a notification system that can interact with software or machines and responds as soon as they malfunction. The system automatically contacts the expert

who is best able to remedy the problem quickly. The advantage of automation: It means maintenance staff are mobile instead of being on call at one location. And this saves personnel costs. The solution BYPA proposed is also of interest to companies which sign service contracts with their customers, says Pouya Azimi: "If, for example, a wind power company sells turbines to the government of Spain along with a maintenance contract, these contracts spell out how fast the company must respond if something goes wrong. If they don't, the company faces stiff penalties."

To avoid that, BYPA's SmartNotification software analyses various parameters to notify the best service expert as fast as possible.

Professor for Computer Science Rudolf Berrendorf believed in BYPA's business idea and acted as a robust mentor to the young entrepreneurs. This support from the university secured them start-up financing from 1 August 2010 under the EXIST-programme run by the Federal Ministry of Economics and Technology. They have rented an office on the BusinessCampus, purchased the hardware and hired an additional developer. All they need now is clients.

*Young entrepreneurs with fresh ideas: Pouya Azimi and Birol Yildiz*



# Twice as Good

## Car maker Ford and Bonn-Rhine-Sieg University of Applied Sciences offer dual degree

With their leaving qualifications safely in their pockets, many German high school students are faced with the choice of either university or vocational training. The cooperative programme "do2technik", offered by Ford-Werke GmbH and Bonn-Rhine-Sieg University of Applied Sciences, lets you do both. After four and a half years at the company and at university, graduates walk away with two qualifications. There are twelve places respectively for students to study Mechanical and Electrical Engineering at the university, whilst completing an apprenticeship as an industrial mechanic or electronic technician. You cannot beat the efficiency of the dual degree: It would take seven years to do the IHK diploma and the Bachelor's degree in engineering as separate programmes.

### Ford managers act as mentors

The "do2technik" programme comprises two phases. At first, the programme focuses on vocational training and working on site. From year two onwards, students also study at university and work on practical assignments in the Departments of Mechanical or Technical Engineering. Theory and practical experience go hand in hand. The

courses at university reinforce and deepen the theoretical knowledge gained during vocational training. Work placements in automotive development and manufacturing during semester breaks provide students with the tools they will need in their future professional lives. Moreover, participants are under the personal mentorship of Ford executives throughout the entire duration of the programme.

"Participants in this programme are excellently positioned to launch their professional careers successfully," says Volker Theißen, director of training and continuing education at Ford. Another advantage is the fact that "do2technik" students receive payment during the entire programme, which secures their financing and guarantees them regular work experience with Ford.

### do2technik:

[www.ford.de/UeberFord/BerufKarriere/Einstieg/Schuelerinnen\\_Schueler/AusbildungUndStudium](http://www.ford.de/UeberFord/BerufKarriere/Einstieg/Schuelerinnen_Schueler/AusbildungUndStudium)



# Seeking Donors and Sponsors

Fidegnon Adeossi has been in charge of the fund-raising department at Bonn-Rhine-Sieg University of Applied Sciences since May 2010

## *How do you become a professional fund-raiser?*

I have a degree in Sociology, Politics and Public Law from the University of Bonn. I realised that I wanted to work in communications for institutions that are committed to social causes. After an internship in public relations I first worked for the development aid agency World Vision as manager for corporate relations and major donors.

## *Why does an academic institution need people like you?*

The squeeze in public funding will continue, so you have to look for alternative sources of financing. Fund-raising is a relatively new tool for German universities. But the general conditions are pretty good. Corporations are increasingly willing to engage with social issues. Many corporations feel the urge to balance their commercial interests with social components that, ideally, match their core competencies – and an application-oriented university can offer lots of funding opportunities that reflect the companies' own portfolios. And of course, social engagement is also a marketing tool. Fund-raising offers opportunities for both sides.

## *How do you approach potential donors?*

The most obvious strategy is to approach companies that are in contact with the university and have had good experiences with our students. Then I need a good peg, like the well-established North Rhine-Westphalia scholarships, which will soon be rededicated as 'Germany' scholarships. We were able to raise funding for 36 scholarships for the winter term 2010/2011, half of it from the federal state of North Rhine-Westphalia, and the other half from 21 private donors. In order to extend scholarship opportunities at the university, we have now established an "education



fund" which will also sponsor students from developing and emerging countries. This is a very good starting point for talking about other funding opportunities.

## *How do you convince potential donors?*

I talk about our excellent conditions for study and the success of our research and how they will be enhanced even further through donations. My job is to identify projects at the university that may be of interest to potential sponsors.





A public event on renewable energies, or supporting a professorship in business ethics, for example, are likely to attract sponsors because they address a large target audience and highlight the university's social mission. But there are also sponsors with very specific interests in topics that an ordinary person can't even understand. By talking to people you can explore these special interests and tailor them individually.

*At some U.S. universities, fundraising accounts for ten to thirty percent of the budget. Can you imagine this in Germany?*

We are still a long way away from that. In the U.S., donations and fund-raising have an entirely different tradition. Universities have a different culture of private engagement. And these elite universities also have a large proportion of very wealthy parents and alumni who donate themselves, or raise money as if it were a public contest. In Germany, on the other hand, for a long time, it was considered bad manners to be too open about donations. Therefore, we are generally talking about much smaller sums here at German universities. However, the motto of "do good and talk about it" is gaining currency here in Germany, too.

## Companies invest in education

### 36 North Rhine-Westphalia scholarships

It pays off to invest in education. More and more corporations understand this and sponsor a North Rhine-Westphalia scholarship. In the winter term of 2010/2011, there were 36 scholarship holders at Bonn-Rhine-Sieg University of Applied Sciences, funded by 21 sponsors. This was up from 22 students in the previous year, who were supported by four corporate partners.

North Rhine-Westphalia scholarship holders receive a monthly stipend of 300 euros for one year, half of which is funded by the federal state of North Rhine-Westphalia. The other half is funded by a sponsor who can be certain that the money goes to high-achieving young talents. "At our university, companies can choose to dedicate their sponsorship to students in a specific discipline," says Professor Reiner Clement, Vice President for Innovation and Innovative Funding.

Our sponsors include Deutsche Postbank, Bechtle IT-Systemhaus, machine and plant manufacturer Reifenhäuser, and of course the Donors' Association of Bonn-Rhine-Sieg University which comprises 80 regional companies. "We want to recruit young people for our company and support and honour the successes of the students," says Andrei Frömmer, Director of Executive Professional Development at the Bonn Postbank. Contact with young talents usually pays off for the sponsors: They come into contact with potential new staff and hear about interesting final theses. The scholarship recipients, on the other hand, can hope for support in their career planning.





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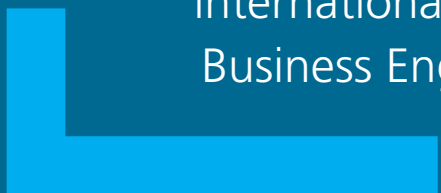
Rhine-Sieg BusinessCampus  
Sankt Augustin

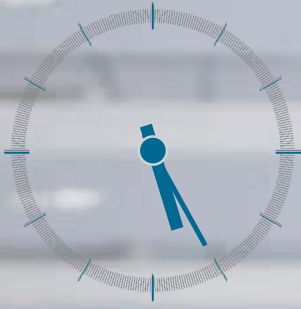


Company founder, Kathrin Krake, and Dylan  
krake | kommunikation



“The proximity to the university and other innovative companies on the BusinessCampus provides a wealth of opportunity for interdisciplinary cooperation. Useful for international projects: the university’s enjoyable Business English and Business Spanish classes.”





# Robot with a Woman's Touch

## RobertaZentrum brings girls closer to technology

Roberta follows commands to the letter: Just hit a few keys on a laptop, and the googly-eyed rolling robot follows a black line on the floor instead of moving around the room freely. At the grand opening of the zdi-RobertaZentrum at Bonn-Rhine-Sieg University of Applied Sciences, Roberta proves how entertaining technology can be.

zdi is the German acronym for 'Future by Innovation' and is an initiative by the Ministry of Innovation of the federal state of North Rhine-Westphalia. Its mission is to get students excited about Computer Science, Engineering and the Natural Sciences. Schools, universities, business and politics joined forces to create 30 such zdi centres, among them the Rheinbach education centre which incorporated the Sankt Augustin RobertaZentrum in December 2010. Girls and boys in year 6 and above learn about technology and computer science through playing with robot building kits that they programme themselves.

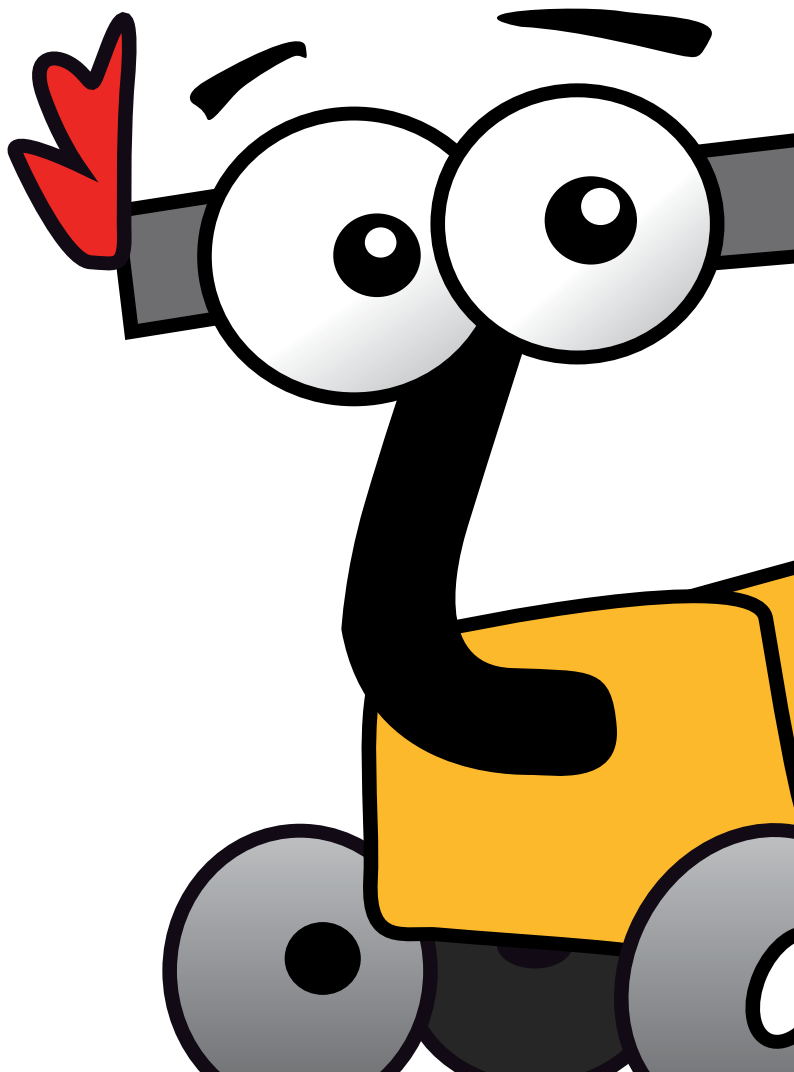
### Overcoming fear of technology

Girls and young women, in particular, need a gentle push towards these disciplines, says Equal Opportunities Commissioner Annegret Schnell: "I am appalled how anxious young women are about technology." She herself is a graduate of Computer Science, but she observes that this profession is still shunned by women. This fact is also reflected in the lecture halls in Sankt Augustin and Rheinbach: Whereas Business Administration has an almost equal share of male and female students, a mere ten percent of students in Electrical Engineering are female. In order to change this, Annegret Schnell brought the "Roberta" concept to Sankt Augustin.

It is based on a robot building kit by Lego. The Fraunhofer Institute for Intelligent Analysis and Information Systems IAIS in Sankt Augustin developed special software as well as a didactic concept tailored specifically to girls. It is not enough just to hand this technological toy to the teachers, according to Thorsten Leimbach, who is in charge of "Roberta" at IAIS: "To drive a car you have to have a driving licence."

The RobertaZentrum in Sankt Augustin offers both: Schools can borrow the Roberta kits, worth 300 euros each, and teachers can attend training sessions. Women students of Computer Science at the university are given the opportunity to train as "Roberta Scouts", which qualifies them to pass on their passion for the subject to groups of school students.

[www.roberta-home.de/eng](http://www.roberta-home.de/eng)



# Staying in Contact with the University

## Department of Business Administration invites alumni to conference

On the model of American universities, which maintain close contact with their graduates and thus with potential spokespersons, donors or research partners, Bonn-Rhine-Sieg University of Applied Sciences takes good care of its alumni. An example of this is the alumni conference run by the Department of Business Administration in Rheinbach. For the second time, approximately 60 former students of the department met in the summer of 2010.

“Our mission is to maintain contact with our graduates. In doing so, we also want to intensify cooperation between the university and business,” says Dr. Thomas Krickhahn, who started the alumni conferences and now coordinates them together with three colleagues in the department. At the conference, alumni reported on their own experiences and trends in the professional world. They presented their companies or discussed current issues in the field with other participants and members of the university. Thomas Krickhahn thinks that keeping in touch with its alumni is very beneficial for Bonn-Rhine-Sieg University of Applied Sciences. “Our alumni know exactly what we do here, and we learn what companies need and what direction our training should take.”



Students from the department’s “Programme for Excellence” are also invited to the alumni conferences. It provides a platform for them to make contacts, learn about work placement opportunities, or get ideas for semester papers or final theses. “It was also interesting to hear how actual professional life works, which was a reality-check for me,” says Mischa Ellenberger. He obtained his Bachelor’s degree in Business Administration from Bonn-Rhine-Sieg University of Applied Sciences and is an alumnus himself today. The 26-year-old likes to come to the conferences because he gets to meet former fellow students and lecturers. “The conference is a great forum for staying in contact. And I might even find partners for joint projects.”



# Self-Determination is a Challenge

## University and German Statutory Accident Insurance examine the needs of people with severe disabilities

Self-determination is an important issue for people with disabilities. Where and to what extent do they make use of sports therapy? How can arrangements for nursing care or housekeeping support be optimised? So-called Personal Budgets give disabled people the opportunity to make their own decisions. Instead of benefits in kind, they can apply for money. This legislation has been on the books since 2008, but is little used.

German Statutory Accident Insurance, in partnership with the Department of Social Security at Bonn-Rhine-Sieg University of Applied Sciences, has examined the reasons for this reluctance in a joint research project. Funded by the Federal Ministry of Labour and Social Affairs, they launched the project ProBudget. 470 people with severe disabilities were asked for their assessment of and experiences with Personal Budgets.

In the spring of 2010, the first results emerged: Most of those surveyed were comfortable with the work of their special needs carers and the services provided by Statutory Accident Insurance, and thus had little interest in a Personal Budget. They were afraid that it might entail red tape, and doubted that the increased effort would yield enough benefits for them. Those who actually opted for the Personal Budget expressed very different views. They all had positive experiences.

### Interviewer training

Special needs carers working for German Statutory Accident Insurance conducted the interviews themselves. In order to obtain scientifically sound results, the Department of Social Security developed the questionnaires and trained the interviewers. "We had to provide them with a precise code of conduct," says Professor Christian Rexrodt, "especially as there are often close personal relationships between special needs carers and the insured, which means it is not easy to guarantee scientific objectivity."

In August 2010, the Hennef Campus hosted an expert workshop. Special needs carers from Statutory Accident Insurance discussed the results of the study and drew their conclusions. In order to help people with severe disabilities overcome their reluctance to use Personal Budgets, counselling must be improved and processing made easier. "After all," says Christian Rexrodt, Professor of Case Management, "Personal Budgets are an important tool in the context of the UN Convention on the Rights of Persons with Disabilities, which stipulates the right to a self-determined life."

### CeBIT-IT innovation award for alumnus

Paul Mertes & Mathias Leven GbR scored a success at the trade fair CeBIT: The young company received the Innovation Award in the category "Human Resources" for its internet job portal Aushilfe-Direkt.de, which brings temporary workers and employers together at ultra-short notice. Entrepreneur Mathias Leven studied at Bonn-Rhine-Sieg University of Applied Sciences before he launched his own business. In front of an audience of several hundred guests from politics, business

and the information and communication technology industry, the Initiative Mittelstand conferred awards in 35 categories for the best IT innovations of the year for medium-sized enterprises. The winners prevailed in a field of approximately 2,000 contestants. The expert jury consisting of professors, scientists, IT and industry experts as well as specialist journalists evaluated the submissions on their innovative power, practical relevance and suitability for medium-sized enterprises.

# Visible Involvement

## University participates in the Bonn Sustainability Portal

What makes Bonn unique? Not just the River Rhine or Ludwig van Beethoven, but also the city's role as a centre of sustainable development. More than 150 national and international organisations are involved in this sector here in the Federal City, a focus that is showcased by the Bonn Sustainability Portal. On this online platform, the actors involved present themselves as well as networking and sharing knowledge and contacts. Since 2010, Bonn-Rhine-Sieg University of Applied Sciences has been a part of it.

### Teaching for development

"Sustainability is our leitmotif," says Vice President Wiltrud Terlau. In teaching, research and counselling, the university sets its priorities to match this mission: In the context of its 'Teaching for Development' initiative, it banks on the competencies of its departments, which offer programmes of study for gifted students from emerging and developing countries. The university's International Centre for Sustainable Development, founded in 2010, focuses on issues determining the future such as climate protection, renewable energies, environmental risks and social security systems.

"For us, this is also a way of accessing new markets," says Terlau. In view of shrinking demographics in Germany, the university also offers attractive programmes of study for students and researchers from emerging and developing countries. "The portal enhances the visibility of our profile in the region and beyond."

[www.bonnsustainabilityportal.de](http://www.bonnsustainabilityportal.de)



# Fighting the Crisis with a Good Reputation

## MBA Forum 2010 explored success factors for the future – new study on ways out of the economic crisis

Stavros Pechlivanidis has been with IBM Global Business Services since 2001. As an academic advisor, he uses information technology to future-proof companies from various branches of industry worldwide. He presented some of the success factors at the MBA Forum 2010 in Rheinbach. For IBM, for instance, human resources are key: "IBM is a globally integrated corporation in which it doesn't matter whether our experts are in Frankfurt, Bratislava, New York or Bangalore," says the computer scientist. That is what makes its fully web 2.0-based internal communication so important – it enables IBM to make quick strategic decisions around the globe.

Stavros Pechlivanidis is an alumnus of Bonn-Rhine-Sieg University of Applied Sciences who received his Master of Business Administration (MBA) in 2007. In 2003, the Department of Business Administration in Rheinbach was the first in North Rhine-Westphalia to introduce this Master's programme for executives. Its focus is on strategic management and on teaching advisory skills. The outcome is very respectable: "Our graduates work in international corporations such as Telekom, Toyota and PA Consulting," reports Karsten Heinrich, coordinator of the MBA programme.

### Deeply rooted in the region

To strengthen the bond between these valuable alumni and their university, the department launched an expert conference called 'MBA Forum' in 2008. The theme in 2009 was "North Rhine-Westphalia in economic crisis?! Sustainable management as a success factor in recession". In 2010, participants gathered under the slogan "New horizons for North Rhine-Westphalia. Learning from crisis – success factors for the future". The regional themes are no coincidence. The MBA programme is deeply rooted in the region. "Teaching takes place at weekends – our students often come from the region," says Karsten Heinrich.

In tandem with the forum, the department published a study in 2010. 172 companies were asked how they had handled the economic crisis. 75 percent were medium-sized enterprises, but also giants like Deutsche Post, Lufthansa, Google and Amazon. The bottom line: reputation, reliability and price are the most important success factors.

[www.mba-rheinbach.de](http://www.mba-rheinbach.de)



# People

## Devoted to science – Simone Bagel-Trah and Michael Kresken

Simone Bagel-Trah made the headlines: As the first woman at the helm of a DAX-listed corporation, the President of the Supervisory Board of the Henkel Group is a minor sensation. What is less well-known is that, together with Michael Kresken, professor at the Department of Medical Economics at the Rheinische Fachhochschule Köln, the 42-year-old with a Ph.D. in microbiology headed a successful company at the Rheinbach Campus of Bonn-Rhine-Sieg University of Applied Sciences. "Antiinfectives Intelligence" has made a name for itself in the field of microbiological research and communications. "We are passionate about both entrepreneurship and science," says Michael Kresken. "Therefore, we consider exchange with universities extremely important," Bagel-Trah adds. The company, founded in 2000, has been on the Rheinbach Campus for almost six years – a good deal for students at the university, who can always turn to "Antiinfectives Intelligence" for practice-related topics to address in their Bachelor's theses.





# Facts and Figures



WISSENSWEISSICHES

# GENAU



# Facts and Figures

As of April 2011

## Programmes of Study

### Bachelor's programmes

- Applied Biology
- Business Administration, Sankt Augustin Campus – Bachelor of Science (B.Sc.)
- Business Administration, Rheinbach Campus – Bachelor of Arts (B.A.)
- Chemistry with Materials Science
- Electrical Engineering
- Computer Science
- Computer Science (part time course)
- Cooperative engineering programmes:
  - » Electrical Engineering (cooperative)
  - » Mechanical Engineering (cooperative)
- Mechanical Engineering
- Forensic Science
- Social Security Management with focus on Accident Insurance
- Technical Journalism / PR
- Business Information Systems

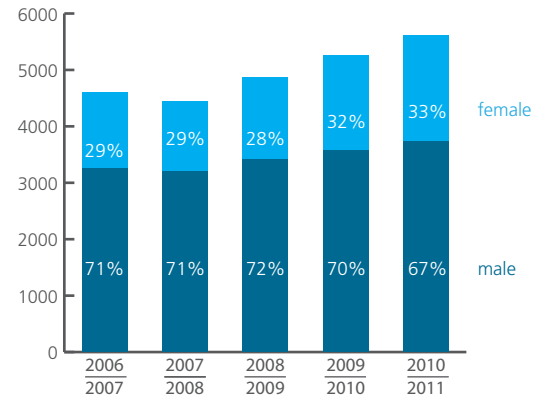
### Master's programmes

- Autonomous Systems
- Biomedical Sciences
- Business Administration
- Controlling and Management
- Electrical Systems Design
- Computer Science
- Innovation and Information Management
- International Media Studies
- Communication Systems and Networks
- Mechatronics
- NGO Management
- Technology and Innovation Communication

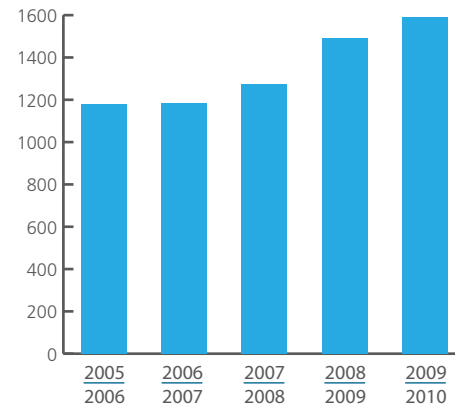
3 additional programmes are planned

## Students 2005-2010

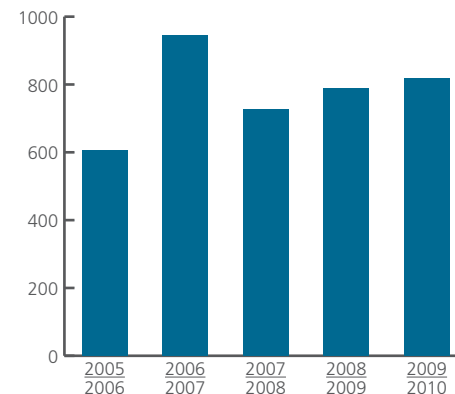
### Number of students



### First-semester students

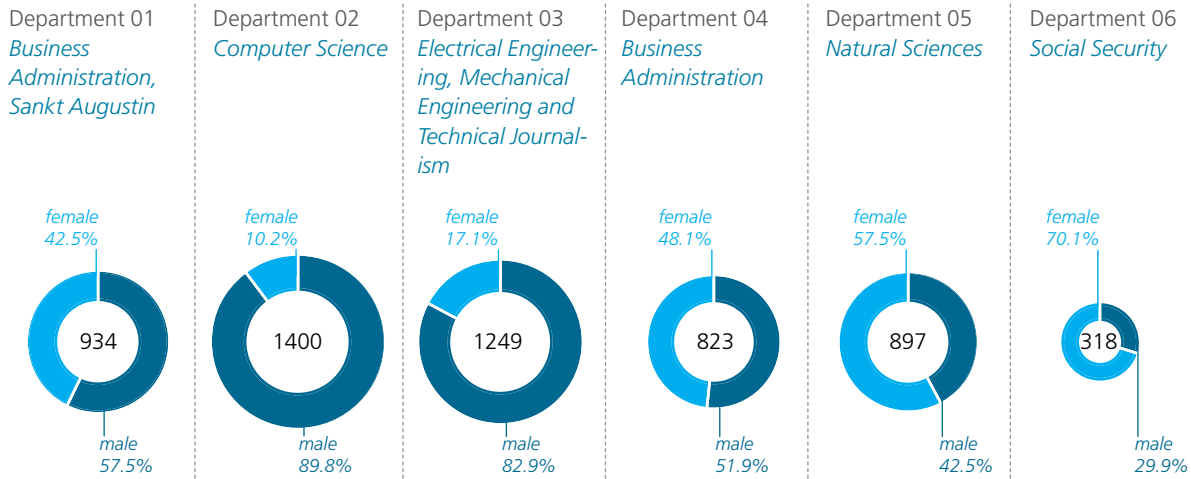


### Graduates

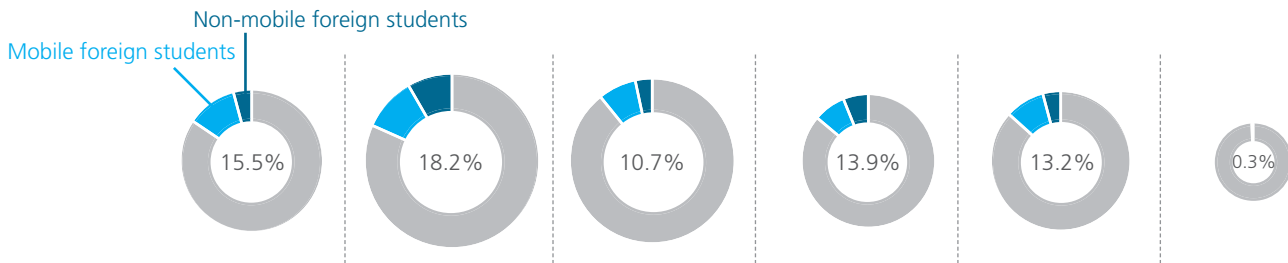


## Students in the Winter Term 2010/2011

### Students by department and gender



### Percentage of international students in the departments



A university in figures. Visit the following website for detailed statistics and data on Bonn-Rhine-Sieg University of Applied Sciences:  
[www.h-brs.de/statistiken](http://www.h-brs.de/statistiken)





## Organisational structure



### Departments

Department 01  
Business Administration  
(Sankt Augustin site)

Department 02  
Computer Science

Department 03  
Electrical Engineering,  
Mechanical Engineering and  
Technical Journalism

Department 04  
Business Administration  
(Rheinbach site)

Department 05  
Natural Sciences

Department 06  
Social Security  
Management

### Staff Units

- Press and Public Relations
- Research and Transfer
- Fundraising

### Presidential Commissions

- Tuition and Studies
- Research
- International Affairs
- Financial Affairs and Budgeting (Working Group)

### Presidential Commissioners

- Alumni
- Appointment Procedures
- Quality Management and Quality Assurance
- Intercultural and Religious Affairs
- International Projects
- Schools

### Administration

Section 1  
Finance, Purchasing, Real Estate,  
Building and Construction,  
Environmental Protection and  
Safety at Work

Section 2  
Personnel Management,  
Legal Affairs

Section 3  
Information and Communication  
Technology

Section 4  
University Planning, Organisation,  
Controlling and Personnel  
Controlling

Section 5  
International Office & Student  
Affairs

### Key Research Areas

- Visual Computing
- Research and Transfer

### Student Body

- Departmental Councils
- Student Representatives on Departmental Councils
- Student Parliament
- Student Committee

### Central Facilities

- Graduate Centre
- International Centre for Sustainable Development (IZNE)
- Language Centre
- University Library

### Statutory Representatives

- Staff Councils (scientific/non-scientific)
- Health and Disability Commissioner
- Data Protection Commissioner
- Equal Opportunities Commissioner
- Environmental Protection, Occupational Health and Safety Commissioner

## The University Council of Bonn-Rhine-Sieg University of Applied Sciences

The current members of the University Council were appointed in August 2007: 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 Bonn-Rhine-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-Rhine-Sieg University of Applied Sciences
- **Prof. Dr. Elvira Jankowski**, Bonn-Rhine-Sieg University of Applied Sciences
- **Dr. Eckart John von Freyend**, President of the Cologne Institute for Economic Research (IW) - Deputy Chairman
- **Dr. Ines Knauber-Daubenbüchel**, entrepreneur, Knauber company
- **Prof. Dr. Gerd Knupp**, Bonn-Rhine-Sieg University of Applied Sciences
- **Prof. Dr. Karl W. Neunast**, Bonn-Rhine-Sieg University of Applied Sciences
- **Dr. Andrea Niehaus**, Director of the Deutsches Museum Bonn

## Appointments

1 January 2010	<b>Prof. Dr. Andreas Wieseahn</b> as Professor for Business Administration, in particular Accounting and Controlling in Department 01
1 January 2010	<b>Prof. Dr. Sascha Alda</b> as Professor of Computer Science, in particular Software Architecture in Department 02
5 February 2010	<b>Prof. Bernd Petri</b> as Honorary Professor in Department 06
5 February 2010	<b>Prof. Dr. Christoph Schmidt</b> as Honorary Professor in Department 03
1 March 2010	<b>Prof. Dr. Rüdiger Buck-Emden</b> as Professor for Business Information Systems in Department 02
1 May 2010	<b>Dr. Annette Menke</b> as Acting Professor of Biology, in particular Forensic Biology in Department 05
1 July 2010	<b>Prof. Dr. Volker Kronenberg</b> as Honorary Professor in Department 06
21 July 2010	<b>Prof. Dr. Michael Heister</b> as Honorary Professor in Department 06
21 July 2010	<b>Prof. Dr. Alexander Asteroth</b> as Professor for Foundations of Computer Science in Department 02
1 August 2010	<b>Prof. Jianxiong Chao</b> as Acting Professor for Business Administration, in particular Quantitative Methods in Department 04
1 October 2010	<b>Prof. Dr. Gerhard Holl</b> as Professor for Chemical and Physical Sensors and Detection Technologies in Department 05

## International Partners

Country	University	Departments
Australia	Murdoch University in Perth	Natural Sciences, Biology, Business Administration
	Victoria University in Melbourne	Natural Sciences, Biology, Business Administration, Rheinbach and Sankt Augustin
	University of Sunshine Coast, Queensland	Business Administration Rheinbach
Bulgaria	University of Economics in Varna	Business Administration, Computer Science
Canada	York University in Toronto	Computer Science
	Dalhousie University in Halifax	Computer Science
	University of New Brunswick in New Brunswick	Computer Science
Croatia	University of Dubrovnik	Computer Science
Czech Republic	Tomas Bata University in Zlin, Faculty of Technology	Natural Sciences, Chemistry with Materials Science
Denmark	Aalborg University Copenhagen	Computer Science
Ethiopia	Agrotechnical Training College (ATTC), 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 in Rheinbach
Greece	University of Crete	Computer Science
Ireland	Institute of Technology Tralee (ITT)	Business Administration
	National University of Ireland in Galway	Business Administration, Sankt Augustin
	Dublin Business School in Dublin	Business Administration
	National University of Ireland, Maynooth Innovation Value Institute	Business Administration, Sankt Augustin
Italy	University of Palermo Dipartimento di Biologia Cellulare e dello Sviluppo	Natural Sciences, Biology

Japan	Kagawa University in Takamatsu	Business Administration (01, 04)
	Nagaoka University of Technology	Computer Science
Jordan	German-Jordanian University (GJU)	Computer Science
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
Netherlands	HAN University of Applied Sciences, Nijmegen	Natural Sciences, Biology
	Hogeschool van Amsterdam	Computer Science
Norway	HiST, Sør-Trøndelag University College in Trondheim	Computer Science Natural Sciences, Biology and Chemistry with Materials Science
People's Re- public of China	Nantong University	Computer Science, EMT, Business Administration 04 and Natural Sciences
	Hunan University, Changsha	Business Administration
Poland	Jagiellonian University in Kraków	Natural Sciences, Biology
	Warsaw University of Technology	Computer Science
Russian Federation	Saint Petersburg State University of Information Technologies, Mechanics and Optics	EMT
	Moscow State Institute of Radioengineering, Electronics and Automation (Technical University)	Computer Science
Spain	Universidad de Valencia	Natural Sciences, Biology
	Universidad Politecnica de Valencia	EMT, Computer Science
	Universidad Rey Juan Carlos	Business Administration (planned)
Switzerland	La Haute Ecole Arc	Computer Science and EMT, Business Adminis- tration in Sankt Augustin (planned)
	Zurich University of Applied Sciences in Winterthur (ZHAW)	EMT, Technical Journalism
Turkey	Istanbul University	EMT, Technical Journalism
United Kingdom	Robert Gordon University in Aberdeen	Natural Sciences, Forensic Science, Business Administration
	University of Aberdeen, Scotland	Natural Sciences, Biology
	University of Dundee, Scotland	Natural Sciences, Biology
	Keele University in Staffordshire	Business Administration
	London South Bank University	Natural Sciences (Biology, Chemistry), Business Administration
	Glyndwr University in Wrexham, Wales	EMT
USA	Coastal Carolina University in Conway, South Carolina,	Business Administration
	Pfeiffer University in Charlotte, North Carolina, USA	Business Administration
	California State University in Sacramento	Computer Science
	University of Bridgeport	Business Administration, Sankt Augustin
	University of California, Riverside (UCR)	Business Administration, Sankt Augustin
	Boston University	Business Administration, Sankt Augustin



## Awards in 2010

### University of Oxford

Prof. Dr. Dietmar Fink was appointed an International Research Fellow by the University of Oxford

### Winners of the Donors' Association Awards

#### Department of Business Administration Sankt Augustin

Daniel Fischer

Award sponsored by true fruits GmbH

#### Department of Computer Science

Christoph Müller, B.Sc.

Sebastian Blumenthal, MSc Autonomous Systems

Award sponsored by DSG Canusa GmbH

Award sponsored by GKN Walterscheid

#### Department of EMT

Michael Krist, Electrical Engineering

Johann Schuster, Engineering

Anne Bien, Technical Journalism

Award sponsored by Moeller Eaton Holding GmbH

Award sponsored by Reinold Hagen Foundation

Award sponsored by Zurich Group Germany

#### Department of Business Administration Rheinbach

Mischa Ellenberger, BA

Award sponsored by Kreissparkasse Cologne

#### Department of Natural Sciences

Mandy Großgarten, Chemistry with Materials Science B.Sc.

Katharina Borczuch, Applied Biology B.Sc.

Award sponsored by Siegwerk Druckfarben AG

Award sponsored by Antiinfectives Intelligence GmbH

#### Department of Social Security

Anja Bruchmann

Award sponsored by German Statutory Accident Insurance

### Award winner of the German Academic Exchange Service DAAD

Saif El-Din Shehata, Department of Natural Sciences, Applied Biology

### Study Award for Sustainable Development

**Awarded by the GTZ (German Society for Technical Cooperation) and Bonn-Rhine-Sieg**

**University of Applied Sciences**

Ursula Fricke, Department of Business Administration St. Augustin, Diplom Programme

Carolina Cardona Garcia, Department of Business Administration Rheinbach, Business Administration

Birte Malach, Department of Business Administration Rheinbach, Business Administration



## Other awards

### Department of Computer Science:

*Best Paper Award at the 2010 SIMPAR conference (Second International Conference on Simulation, Modeling and Programming for Autonomous Robots) in Darmstadt:*

Beatriz León, Department of Computer Science, for further developing her thesis and research work within the EU project XPERO - Learning by Experimentation

*Contest at the summit for 'Computer Science at Universities of Applied Sciences' (FBTI), 2010:*

Florian Bingham, Master's student at the Department of Computer Science, received an award for his his thesis "Accelerated Ray Tracing of Coherent and Non-coherent Radiation Beams on the Cell Broadband Engine" (2009). He is now a research associate at the Department of Computer Science.

### Department of EMT:

*Journalism Award and Helmholtz Research Fellowship:*

Konstantin Zurawski graduated from Bonn-Rhine-Sieg University of Applied Sciences in October of 2008 and works for the "Viermann" editorial office for science and technology. The alumnus won 2nd place at the 5th Journalism Award and received a cash prize of 3,000 euros for his article "Hackers are Falling Behind" for the magazine "bild der wissenschaft", which was part of his final thesis.

*The Sankt Augustin 'Golden Palm' - awarded for a 'Short Cut' short film :*

2010 winners:

1st prize

Johann Herte

Jonas Bechstein

Philipp Laufenberg

Michael Peters

### Department of Natural Sciences:

*VDI Award*

Ramona Makarov, Department of Chemistry with Materials Science (graduated in August of 2009), won 2nd prize, endowed with 2,000 euros, for her Bachelor's thesis "Investigation of Physical and Chemical Parameters in the Rapid Thermal Combustion of Energetic Materials" in November of 2010. She is now a Project Associate at the Department of Natural Sciences.

*Max-Buchner Prize for Chemical Engineering*

Marina Juliane Richter, Department of Chemistry with Materials Science, received the award from the Max Buchner Research Foundation for Chemical Engineering for her Bachelor's thesis in collaboration with Evonik Oxeno GmbH at the Marl Chemical Park.

### Department of Social Security:

*Award in the category 'Occupational Diseases'*

Anja Bruchmann, Hennef Campus, won the 1,000 euro award for her Bachelor's thesis on "Stress and Discomfort at Screen Work Places with a High Proportion of Computer-Based Work. An Analysis of Workplaces belonging to the Professional Organisation 'Metall Nord Süd'".



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

**Sankt Augustin Campus**

Bonn-Rhine-Sieg University of Applied Sciences  
Grantham-Allee 20  
53757 Sankt Augustin

**Rheinbach Campus**

Bonn-Rhine-Sieg University of Applied Sciences  
von-Liebig-Straße 20  
53359 Rheinbach

**Hennef Campus**

Bonn-Rhine-Sieg University of Applied Sciences  
Department of Social Security  
Zum Steimelsberg 7  
53773 Hennef

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