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University of Technology
Cottbus – Senftenberg

INTERNATIONAL
BTU NEWS Nº 1
APRIL 2018



Research
Study & Teaching
Campus & University Life
Economy & Knowledge
Transfer



2,048 = 27%



BTU INTERNATIONAL

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THE EDITORIAL



Dear readers,

You are holding the first international edition of our university magazine, BTU News, in your hands. With numerous articles from areas such as research, academic affairs, campus and university life as well as economics and knowledge transfer, we would like to give our English-speaking partners, alumni, friends and students the opportunity to immerse themselves even better in the world of the BTU and stay in touch with us. It is very important for me to maintain and cultivate contact with all of you, even beyond borders and time. You are welcome to contact me or visit me in my office on the Central Campus. Our alumni contributors Veronika Körösi and Daniel Ebert also always look forward to receiving feedback.

This summer we are celebrating the 5th anniversary of our young university. This event gives us the opportunity to look back at what we have achieved so far and to see what lies ahead. On page 4 you will find the reorganised structure of our faculties since spring 2016 as well as an article about the new focus on research in the area of our internationalisation.

BTU combines outstanding international research with future-orientated teaching. We make an important contribution to society, culture and the economy through knowledge, technology transfer and further education. As a technical university, BTU offers a range of studies that is unique in Germany in that it offers university, applied science, dual and international study programmes. Just over 2,000 students decided to enrol at BTU this winter semester. That is considerably more new students than last year. Around 670 of them come from abroad. In 2017, we were also able to further expand our study orientation and preparation courses as well as our dual courses of study for securing regional specialists. In addition to the health-related study programmes, there are four dual courses offered in engineering sciences and more are planned. I am pleased with these results. You can read for yourself what is happening at BTU on the following pages. The English version of BTU News will be published regularly once a year to give you permanent insights into our university.

Enjoy reading!

Jörg Steinbach
Prof. Dr.-Ing. Dr. h.c. (NUWM, UA) DSc. h.c. Hon.-Prof. (ECUST, CN)
President of the BTU Cottbus-Senftenberg



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2,048 = 27%

In the 2017/2018 winter semester more than 2,000 students chose Brandenburg University of Technology (BTU) Cottbus-Senftenberg as their place of study. 670 of them were international students. In total, more than 2,048 international students from 112 different countries are registered at our Cottbus and Senftenberg campuses. This is approximately 27 percent of the total number of students. It would be great if many of them could remain in contact with BTU as alumni, once they have graduated.

International students on their way
to the university >



BTU INTERNATIONAL

NEW FOCUS ON RESEARCH SINCE FOUNDING

After the founding of BTU Cottbus-Senftenberg in July 2013 and the appointment of Professor Dr.-Ing. Jörg Steinbach as president in summer 2014, the university drew up a new University Development Plan, which was presented to the Brandenburg Ministry of Science in 2015 and confirmed by the national Science Council (Wissenschaftsrat) in the spring of 2016. In it, the strategy for internationalisation was formulated in more detail and new focus was placed on prioritising research. This is particularly evident in areas such as the international promotion, cooperation and mobility of young scientists. As a result, internationalisation will be used more than ever before to expand the profile as a high-performing research university.

To do this, it is necessary to identify suitable strategic partners so that the international promotion of young researchers can be pursued in a network of international partner universities with similar and complementary re-

search topics. The primary goal is to increase research quality at the BTU through international exchange. This also includes the fact that every PhD candidate is carrying out research at a partner institution abroad for a certain period of time while working on their doctorates.

The BTU will not pursue a geographical focus within the framework of its partnership policy. By contrast, the quality of a partner institution is decisive. Partner selection will focus more than ever on how they can contribute to improving the quality of teaching and research. In order to inspire more international scientists and academics to come to the BTU and to create suitable conditions for international appointments, the university has set up a Welcome Centre. (see p. 34). This contact point helps with all academic questions and supports social integration.

FACULTIES

FACULTY 1

Mathematics, Computer Science, Physics, Electrical Engineering and Information Technology

FACULTY 2

Environment and Natural Sciences

FACULTY 3

Mechanical Engineering, Electrical and Energy Systems

FACULTY 4

Social Work, Health Care and Music

FACULTY 5

Business, Law and Social Sciences

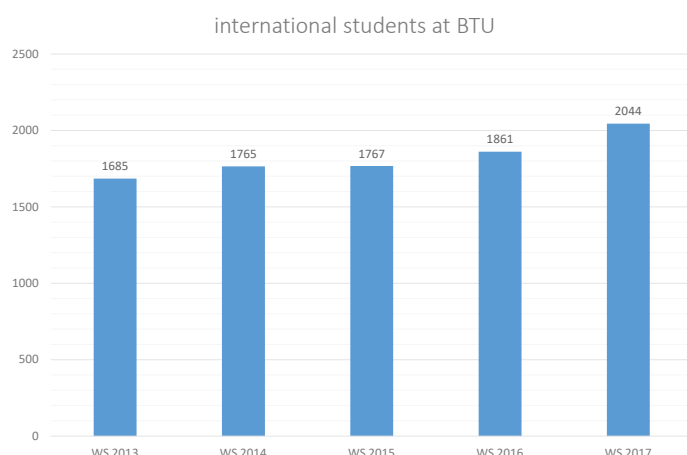
FACULTY 6

Architecture, Civil Engineering and Urban Planning

The university's International Guest House, established by the Alexander von Humboldt Foundation, not only makes it easier to get used to the new surroundings, it also facilitates exchange in everyday life in Germany. This meeting centre bearing the name of the Australian researcher »Ludwig-Leichhardt-Haus« offers international scientists and their families affordable housing in the immediate vicinity of the BTU Central Campus. Since 2016, the BTU has also set up a Welcome Centre to support international guest scientists, PhD students, postdocs and newly appointed professors from abroad. (see p. 34)

The BTU also scores points for an attractive offer in international teaching. This includes eleven study programmes taught in English at all levels, academic supervision by coordinators in international study programmes, the good supervisory relationship between teachers and students and the familial atmosphere of the small university.

All this contributes to the fact that BTU also achieves very good satisfaction values in international benchmarking studies. According to the results of the International Student Barometer 2013, 76.3 percent of international students would recommend the BTU.



The number of international students has increased consistently over the years. Around one quarter of the approximately 7,600 BTU students are from abroad and come from over 112 countries. A well-functioning support concept and the service network consisting of an International Relations Office, specialist departments and the Office for International Study Programmes help BTU to achieve steady growth from abroad.

For many years, the international BTU family has enriched the annual Cottbus city festival with cultural contributions, such as the popular flamenco group or the African drummers. The highlight of the festival is the »Cottbus InterNETional« culinary street with a variety of delicacies from countries such as China, Costa Rica, Guatemala, Greece, France, Hong Kong, India, Indonesia, Iran, Colombia, Mongolia, Nepal, Nigeria, Peru, Russia, Spain, Sri Lanka, South Korea/ Japan and Venezuela, which were represented in 2017.



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RESEARCH

GREEN HYDROGEN FOR ENERGY STORAGE

It is planned that innovative electrode materials will make efficient hydrogen production out of regenerative energy sources more cost effective

For the »energy revolution«, the transformation of the way in which we generate our energy, to succeed, the right storage technologies are needed. If hydrogen is generated with the aid of renewable energy sources, it can act as an important energy carrier. To make the production as cost efficient as possible, the joint research project »Innovative porous 3D electrode materials for more efficient alkaline water electrolysis (AE-L3D)« was launched on 1 July 2017 at BTU Cottbus-Senftenberg. The three-year project is being funded by the Federal Ministry of Economic Affairs and Energy (BMWi) with a total budget of 2.5 million euro. The Chair of Power Plant Technology of Prof. Hans-Joachim Krautz is participating in this with funding of 819,000 euro.

The research work is focusing on the further development of alkaline electrolysis for the large-scale generation of hydrogen out of regenerative energy sources, so-called »green hydrogen«. The main focus here lies on the long-term storage which is also becoming increasingly important for Brandenburg. Highly efficient electrodes are a key component for alkaline electrolysis and the joint project therefore plans to develop new porous, three-dimensional electrode materials and characterise these in an application-orientated way.

Alongside the research of the electrocatalytical and fluid-mechanical properties, the development of innovative, permeable electrode forms and cell architectures will also be incorporated. In this way, the effective current densities will be significantly increased with targeted gas extraction and low overvoltages. As a result, green hydrogen can be produced cheaper and more efficiently from regenerative electricity. Under the direction of Dr. Ulrich Fischer, the team of the Chair of Power Plant Technology is working on extended measuring possibilities for the prequalification of the new electrodes and cell geometries at test stands in the Hydrogen and Energy Storage Research Centre. The most efficient electrodes will then be tested in real operational conditions from a technical viewpoint on the 60-bar pressure electrolyser of the hydrogen centre.

Renowned research facilities in the fields of hydrogen and energy technology as well as materials sciences are working in the project consortium. These include the Brandenburg University of Technology and the Fraunhofer Institute for Manufacturing Technology and Advanced Materials (IFAM, in Dresden), the Centre of Solar Energy and Hydrogen Research Ulm and the Technical University of Berlin. The consortium is complemented by an industrial advisory board that includes renowned electrolysis and plant manufacturers, suppliers and end users, which ensures a high degree of economic utilisation potential.



Robert Guder (left), research associate at the Department of Power Plant Technology, and technician Heinz Schallmeier are monitoring the use of excess wind energy to produce hydrogen

Chair of Power Plant Technology
DR. ULRICH FISCHER

WARMING CUSHION AS BASIS FOR THE HEATING OF THE FUTURE

BTU scientists are developing economical energy accumulators of the future

With a growing share of renewable energy forms in Germany's combination of energy sources, energy accumulators for electricity and heat are becoming increasingly important. Up until now, only a few storage technologies have achieved the necessary technical maturity for competitive costs. In association with scientists of the TU Dresden, the Jülich Research Centre and the Institute of Engineering Thermodynamics (GTT), Prof. Dr. Peer Schmidt, Head of Inorganic Chemistry, is working on innovative heat accumulators for building and industrial technology. The »PCM Screening« research group coordinated by the Senftenberg chemist, will receive funding of 1.9 million euro as part of the 6th Energy Research Programme of the Federal Ministry of Economics and Energy. Of this sum, the BTU will receive 445,000 euro.

Latent heat accumulators are being increasingly used to raise the thermal capacity of building materials. The term includes special waxes or salts that are often encapsulated in microscopic pearls that are then, for example, mixed in with the raw materials in the manufacture of building materials, such as cement. The special thing about this is that the contents of the pearls melt at a relatively low temperature and can absorb a considerable amount of heat energy during this so-called »phase transformation« without the temperature of the substances actually changing. If the ambient temperature drops again, this process is reversed. The core of the pearls cools and, in doing so, emits the same amount of heat. »It works in a similar way as a heated pad. The plastic pouches contain salts which we can, for example, charge in the microwave. Upon melting, these salts store heat energy. When we feel cold, we press the metal plate in the heated pad and, in doing so, trigger the renewed crystallisation, which releases the stored heat«, summarises Prof. Dr. Peer Schmidt.

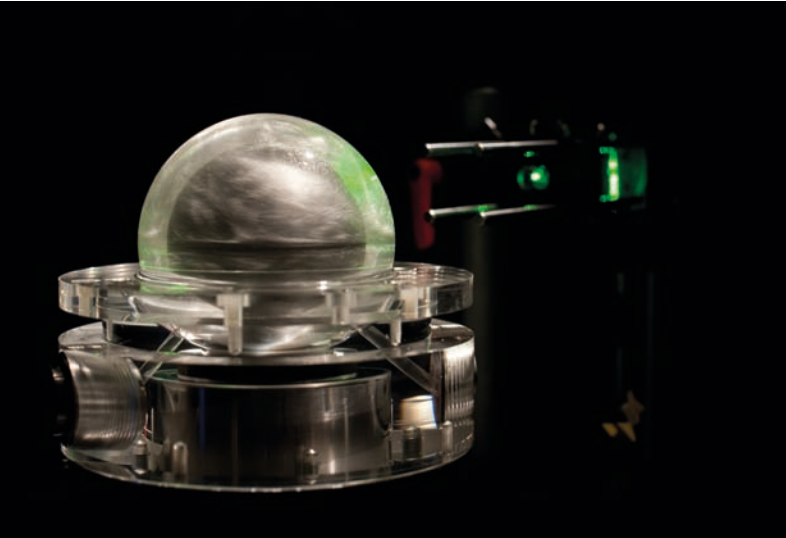
Whether in a heated pad, in your own home or in a power plant, each application uses a different storage medium with a precisely coordinated melting temperature. »However, the availability of suitable and, above all, cost-efficient materials is very limited and has until now prevented a broader use in power engineering. From our viewpoint, inorganic salt hydrates and salts possess the greatest potential with regard to their storage density and possible cost savings«, says Schmidt.

As the number of available pure substances is very limited, the researchers need to increase the range of materials with the aid of mixtures of substances. To prevent costly procedures with many thermal measurements needed to determine the composition and transition temperature of the mixtures, the researchers in the group are working on recording any suitable variants that appear in thermodynamic models. »With our



^ In the laboratory for solid state analysis in Senftenberg, Prof. Dr. Peer Schmidt presents DSC measurements (differential scanning calorimetry) to establish the melting behaviour of heat accumulators

method we can test around 20,000 combinations time and cost efficiently using the data of 50 pure substances.« The scientists aim to compile a comprehensive database for thermochemical information on mixtures of substances and heat storage systems that other research groups and manufacturers can use as a tool for the target-specific development of latent storage media.



< Data from an experiment that is taking place 400 kilometres above the earth offers an insight into currents in the earth's interior

RESEARCHING THE EARTH'S INTERIOR

A Cottbus experiment GeoFlow is being conducted at the International Space Station (ISS)


Scientists of the Aerodynamics and Fluid Mechanics Chair headed by Prof. Dr.-Ing. Christoph Egbers are using models to investigate the currents in the earth's interior. The experiment in the project »Geophysical Flow Simulation«, GeoFlow for short, developed by the Cottbus researchers offers an insight into what happens in the earth's interior. To gain a realistic picture of these processes, the researchers have to take their laboratory into space. »If you want to simulate the currents in the earth in a laboratory on earth, gravitation is quite disturbing as gravity influences all the tests as a downward force«, explains Egbers. In 2008 and 2011, a shoebox-sized model of the earth was therefore taken to the International Space Station ISS, which circles at an altitude of 400 kilometres above the earth, and on which there is almost no gravitational force. This has, meanwhile, been at the ISS for six years. It was again activated in 2016 and 2017 and now sends high resolution data of the currents to Cottbus.

Until now, researchers were unable to reach the centre of the earth as, at 6,300 kilometres, it also gets extremely hot. It is predicted that the temperature at the transition point between the liquid to the solid core is approximately 6,000 degrees Celsius and here there is also pressure of 3,600 tonnes on one square centimetre. Measuring instruments alone only reach a fraction of this depth, one of the problems being that, with increasing heat, the drilling heads quickly become worn and need to be changed. At 300 degrees Celsius they stop working all together. »However, things only really get interesting from a depth of 30 kilometres«, says the head of chair. With a temperature of 350 to 1,000 degrees Celsius, depending on the region, the earth's so-called outer mantle ends and it is on this solid crust that the continental plates lie. It is the first of several layers of which the earth is composed.

The sphere being used in the experiment is constructed in a similar way as the earth with a tough oil layer in between an inner, massive sphere and an outer, hollow sphere. Depending on the temperature conditions in the earth's interior, the inner sphere is heated and the outer, hollow sphere cooled. The entire experimental structure aims to provide findings on the currents that

develop in the earth's liquid core. »Over the eight years we have found out that there are preferred current structures in the earth's liquid layer and a part of this hot mass also moves against the rotation of the earth. Also new is that there are fungal-like current structures that have an impact on the earth's crust. The movements in the earth's core are of decisive importance for the magnetic field, the climate and temperature distribution on our planet. Yet there are still not sufficient findings on the mechanisms that play a role here«, summarises Egbers.

The first GeoFlow experiment at the space station was conducted in 2008 and was financed by America, Russia, Canada, Japan as well as the European Space Agency (ESA). »This was an immense success as there are far more scientists who want to take part in experiments in space than there is room in the space station. Our second GeoFlow Box was then taken to the ISS on board an Ariane 5 launch vehicle in February 2011«, says Egbers. The data that the experiment supplies reaches us within 20 seconds where it is recorded and monitored by a team of researchers around the clock. The individual experiments at the ISS are always only active for a few weeks or months. »GeoFlow II«, which was originally only supposed to have a lifespan of two years, is still operating.

The follow-up project focuses on the experimental investigation of the long-term dynamics of the currents in the earth's interior. 

The project simulates geophysically motivated currents for the research of convection currents in the earth's liquid outer core. The experiment's device was taken to the ISS in 2008 (GeoFlow I). GeoFlow II was launched in February 2011 with Ariane 5. Both models were developed by a team of scientists headed by Prof. Dr. Christoph Egbers of the Aerodynamics and Fluid Mechanics Department at the BTU.

Department of Aerodynamics and Fluid Mechanics
PROF. DR.-ING. CHRISTOPH EGBERS

HEAT TRANSPORT IN AN ARTIFICIAL ELECTRICAL FIELD

A BTU team is taking part in a parabolic flight campaign of the German Aerospace Centre for the seventh time

When the Airbus A310 »ZERO-G« took off from Bordeaux Airport on 12 September 2017, BTU researchers were also on board with a fluid mechanics experiment. This is the 30th parabolic flight campaign of the German Aerospace Centre (DLR), and the Chair of Aerodynamics and Fluid Mechanics of Prof. Dr.-Ing. Christoph Egbers was able to secure a place on this for conducting experiments in free fall for the seventh time.

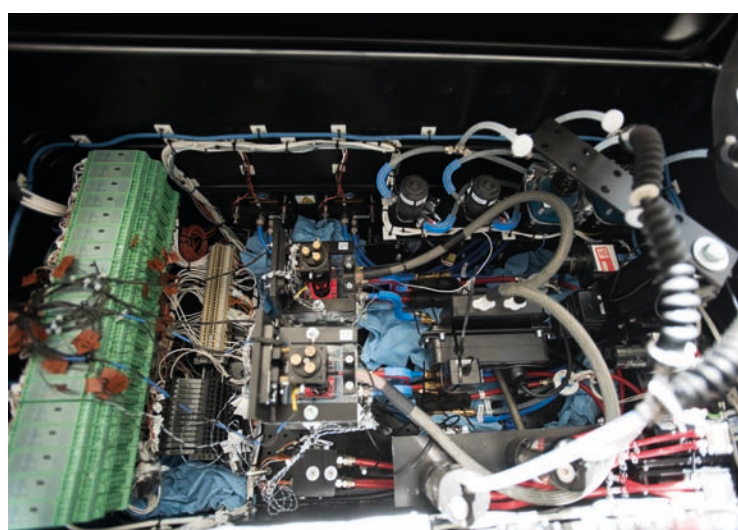
The BTU team with project manager Dr.-Ing. Martin Meier, Marcel Jongmanns, Markus Helbig and Vilko Ostmann travelled to Bordeaux ten days before the start of the campaign to prepare the two experiments, which incorporated sophisticated technology for the parabolic flights. »This year's parabolic flight campaign brings us to a total of four flights and this is immensely beneficial for us«, says a pleased Prof. Egbers. This enabled the scientists to collect comparative values on two different types of experiment set-up in two flights with approx. 60 parabolas.

In the 22 seconds of zero gravity that is available per parabola, the researchers create their own artificial electrical field. For this they apply ten kilovolts of voltage onto a structure of a cylinder opening and this high voltage ensures that only radially directed forces act upon this area during one parabola. »This basic structure is the same in both experiment boxes. What differentiates the boxes is the way we document the processes in the cylinder opening. In one structure we measure the temperature distribution while a laser light cutting procedure is used in the other, which will give us detailed images of the currents«, says Martin Meier. It is hoped that both experiments will offer an insight into how heat transport can be optimised. This is, on the one hand, interesting for fluid mechanics basic research but also provides findings for the development of more efficient heat exchange devices in different areas.

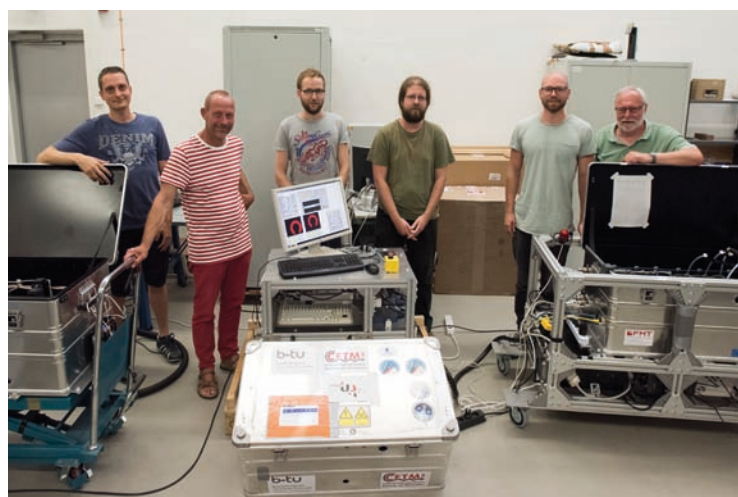
To ensure that everything runs smoothly on the flights, the researchers spent a year intensively working on getting the experiment set-up to fit inside the limited space of the experiment boxes. Maximum safety regulations on board the Airbus A310 also required the meticulous documentation by all involved of the built-in technology. For this, the programming of the fully automated test procedure has to work to ensure that the moments of zero gravity could be optimally used.

The BTU team shared the flight cabin with a large-scale DLR project as well as seven further research teams, mainly from universities. A grant of the friends' association BTU Cottbus-Senftenberg e.V., provided again this year, enabled BTU students to take part in the parabolic flight. ➡

Chair of Aerodynamics and Fluid Mechanics
PROF. DR.-ING. CHRISTOPH EGBERS
DR.-ING. MARTIN MEIER



^ A look inside the aluminium box that contains the experiment: every detail is meticulously planned and carefully documented for the safety test



^ A few weeks before the departure, the team at the Chair of Aerodynamics and Fluid Mechanics worked on the qualification of the experiments that had to be integrated into two aluminium boxes (l.-r.): Markus Helbig, Prof. Dr.-Ing. Christoph Egbers, Robin Stöbel, Marcel Jongmanns, Ludwig Stapelfeld and Dr.-Ing. Martin Meier



◀ Biotechnology student Philipp Geppert examines tumour tissue in the lab for a specific gene defect

ACCURATE CLINICAL PICTURES FOR TARGETED AND FAST THERAPIES

In association with partners from the field of diagnosis technologies, a research group headed by Prof. Dr. Peter Schierack is working on new procedures for a more efficient evaluation of genetic material, in particular for the treatment of tumours in cancer therapy

In a joint project of the Federal Ministry of Education and Research (BMBF) »FISHng«, scientists and partners from Brandenburg and Bremerhaven are working together on an innovative new digital platform for the improved diagnostics of tumours. »FISHng« was launched in September 2016 and is being funded by the BMBF with 1.17 million euro over a period of three years. Researchers in the BTU multi-parameter diagnostics department are working together with MEDIPAN GMBH, GA Generic Assays GmbH, ZytoVision GmbH and the Carl-Thiem-Klinikum Cottbus on the expansion of the fluorescent in situ hybridisation, or »FISH« for short. With the help of this method, medical professionals can map genetic material in human cells.

For this, tumour tissue is taken from the patient and examined for a specific gene defect in the laboratory. It is hoped that the expanded platform will enable the research group, headed by Prof. Dr. Peter Schierack, to incorporate several gene defects in an analysis at the same time and, in doing so, establish a prompt, more comprehensive clinical picture of an illness. Targeted treatment possibilities can then be introduced quicker and more cost effectively.

»Until now, it hasn't been possible to expand this examination to cover several gene defects. Our goal, in association with our partners, is to improve the speed and repeatability of the analysis and also reduce the costs«, summarises Prof. Dr. Schierack, Head of Multi-Parameter Diagnostics. Co-Project Leader Dr. Stefan Rödiger adds: »This field of research is really interdisciplinary and it's very important that scientists work together at the interface between biological analysis, medicine, applied statistical bioinformatics and image analysis. We expect the FISHng project to help develop new biostatistical models that can also be used later in personalised medicine.«

To increase the efficiency of these investigations, new dye systems and a fully automated compilation and evaluation of the findings will be developed. Besides sophisticated examinations in tumour diagnostics, this can also identify bacterial infections. »In the future, this will help doctors to rule out changes in tissue caused by infection, which can also lead to changes that are similar to tumours«, says group leader Juliane Schiebel.

The interdisciplinary research groups »Image-Based Assays« and »Multiplex Bead Assays« headed by Prof. Dr. Peter Schierack have been working on automated methods for the examination of blood, cell material and serum from the brain and spinal cord in the laboratory since 2013. The goal of this is the fast and reliable identification of pathogens and pathological changes in human cells. This is enabled by the multi-parameter verification procedures, which provide reliable results and, at the same time, save costs, time and materials.

The Inno Profile Transfer Initiative »Multiplex Bead Assays« develops the multi-parameter verification procedures that can be used in many ways for cells, microparticles or solutions, by means of a Video Scan technology – an innovative platform for image-based multi-fluorescent detection – developed by the work group and project partners.

The InnoProfile Transfer Initiative »Image-Based Assays« further develops new microparticle systems and microfluid systems for application under controlled temperature regimes and cell based verification systems. The research work also incorporates new approaches for applied statistical bioinformatics in the field of »Personalised medicine«.

Department of Multi-Parameter Diagnostics
PROF. DR. MED. VET. PETER SCHIERACK

Prof. Dr. Klaus Birkhofer (left) and his team take samples from cereal plants by means of an insect suction device – a modified leaf vacuum which can, for example, be used to collect spiders.



IMPRESSIVE RESEARCH ON THE SPIDER POPULATION

Shortly before his appointment as Professor of Ecology at BTU Cottbus-Senftenberg, Prof. Dr. Klaus Birkhofer published an article on the importance of spiders to ecosystems which was met with great interest.

Generally spiders don't have a particularly good reputation, with many people having a strong aversion to the little creatures. However Prof. Dr. Klaus Birkhofer, the new head of ecology at the BTU, feels differently and has chosen spiders as one of his research projects. The professor already went to the North Sahara four times for research purposes as a student: »Here I examined the desert spiders and their ecology and these expeditions awakened my great passion for sand deserts«, reports the much-travelled professor. This was followed by six months in the Namib desert and one and a half years in Namibia, with spiders always the focus of the trips. Shortly before he took up his new appointment, the scientist's surprising figures on the worldwide spider population and its effects on ecosystems attracted great media interest. These findings, which were published in »The Science of Nature« magazine, put spiders in a whole new light. Birkhofer was associate professor at Lund University in Sweden until 2014 and visiting professor of ecology at BTU from 2016. His research focuses on the complex relations between plants, animals and microorganisms, as well as the influence of predator-prey relations on ecosystems. Exactly the latter field is covered by Prof. Dr. Birkhofer's most recent scientific article, which he published in association with Dr. Martin Nyffeler of Basel University. With new calculations on the influence of spiders on the

insect population both researchers gained considerable attention, also beyond the world of science. It appears that the influence spiders have on the world's ecosystems has been underestimated. Prof. Dr. Birkhofer and Dr. Nyffeler found out that spiders are responsible for the death of 400 to 800 million tonnes of insects worldwide. »This high figure is particularly surprising as we often underestimate the spider population figure. Many spiders are only active at night or live in environments which we, as humans, tend to avoid«, explains Prof. Dr. Birkhofer. Therefore we are often unaware of how many spiders there really are scuttling around us.

To determine the global spider population, or to get as close to the actual figure as possible, the researchers collected data from 65 studies on spider frequency per square metre. Calculated as biomass, this resulted in a figure of 25 million tonnes worldwide. By means of two interpolation methods and using the food requirements of spiders and their killing rates in various ecosystems, the researchers were then able to establish the number of insects killed globally by spiders each year. The result is an impressively high figure – particularly compared with the amount of meat and fish consumed by humans worldwide which, according to the United Nations Food and Agriculture Organization, is approximately 400 million tonnes. Anyone who is now thinking that Prof. Dr. Birkhofer is solely preoccupied with spiders is mistaken. He is also interested in other topics and is currently coordinating research projects in Germany, Sweden, Spain, Switzerland and South Africa. Important key areas of research in the Ecology Department at BTU are the examination of the effects of land use and climate change on biodiversity and services which nature provides for man, for example biological pest control and material cycles. »I am personally bringing projects on climate change and its effects on soil ecology in the agricultural country in the EU and on weed control in ecological fruit cultivation in South Africa to Cottbus«, says Prof. Dr. Birkhofer. He also plans to establish an annual departmental excursion to Namibia – obviously he intends to accomplish a great deal.



Spider *Nephilia senegalensis* with its prey (photo by Prof. Dr. Birkhofer)

RESEARCH ON THE AIRCRAFT ENGINE 4.0

The 10-year jubilee celebrations of the Rolls-Royce research centre were a great success, attended by notable guests from politics and industry, as well as 250 students

BTU Cottbus-Senftenberg has been successfully working together with Rolls-Royce for more than 10 years and this jubilee was recently celebrated with Prime Minister Dr. Dietmar Woidke and 150 guests. Themed, »From the virtual engine to Industry 4.0«, the Group President of Rolls-Royce, Colin P. Smith, and the Chairman of the Executive Board of Lufthansa Technik, Dr. Johannes Bussmann, gave insights into the joint research and development activities in the Rolls-Royce University Technology Centre at the university, as well as current technology trends. The jubilee celebrations attracted many students and external visitors and included an exhibition, laboratory tours, lectures and discussions.

»We are developing technologies not for the next five years but for the next twenty years. BTU Cottbus-Senftenberg is an excellent partner developing next generation technology. More than fifty graduates from the German University Technology Centres are working for us in Germany«, said Colin P. Smith of the cooperation. University researchers work together with Rolls-Royce on the latest methods and technologies for Engine 4.0. In 2005 BTU was the first German university chosen to become a member of the exclusive worldwide network of University Technology Centres (UTCs) of the engine manufacturer. BTU President Prof. Dr.-Ing. Jörg Steinbach commented: »The cooperation with Rolls-Royce is an important element of our excellent research in engine technologies. The findings of the research centre go straight into development at Rolls-Royce.«

The director of the research centre, Prof. Dr.-Ing. Arnold Kühhorn, added: »Our objective is to establish a comprehensive approach to the development and manufacture of important components. The Cottbus research centre has achieved considerable success in this field over the past 10 years. With its findings it is also serving Vision 2020, which was outlined by the Advisory Council for Aviation Research and Innovation in Europe (ACARE) and envisages a significant improvement in efficiency and environmental friendliness.«

For Brandenburg's Prime Minister Dr. Dietmar Woidke, the jubilee celebrations in Cottbus were a great success: »Rolls-Royce is one of the most important industrial employers in the state of Brandenburg and the company is a flagship for us. The cooperation between BTU Cottbus-Senftenberg and Rolls-Royce has resulted in a flagship partnership whose appeal and pulling power will continue to increase. It is, at the same time, an important driver of economic and social structural change in the Lausitz region. The research centre represents top-class research in the engineering sciences. More than ten million Euro from third-party funds has already been invested in the research, illustrating the excellent relationship between the university and Rolls-Royce, as well as the specialist expertise of the scientists. The modern industrial location of Brandenburg is able to benefit from this research cooperation in the important field of aviation. There is a clear message: »in Brandenburg, the best have the best opportunities!«



Group photo at the jubilee celebrations, with Prime Minister Dr. Dietmar Woidke (2nd from l.) and Minister Albrecht Gerber (2nd from r.), as well as the Chairman of the Executive Board of Lufthansa Technik, Dr. Johannes Bussmann (l.); Colin P. Smith, Group President Rolls-Royce (4th from l.); and BTU President Prof. Dr.-Ing. Jörg Steinbach (r.). Scientists from the research centre shown here are Prof. Irene Krebs, Prof. Dieter Bestle, Prof. Christian Hentschel, Prof. Klaus Höschler and Prof. Arnold Kühhorn (l. – r.)

LEARNING MORE ABOUT THE WEATHER

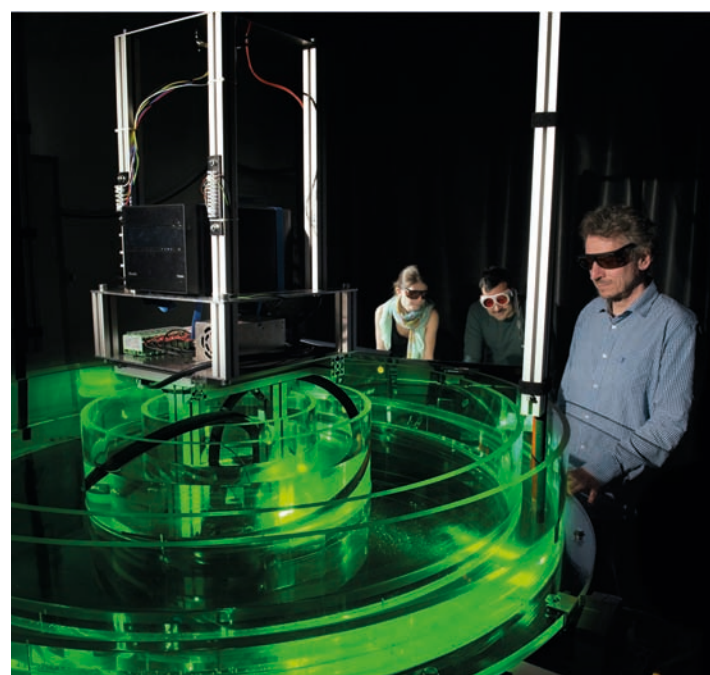
How gravity waves in the atmosphere can influence the weather

Weather services use high-performance computers and detailed weather data for their forecasts yet, despite this, their predictions can still occasionally be wrong. The reason for this could be small-scale gravity waves that influence the temperature distribution in the atmosphere and occur in the air in a similar way as waves in the water. Up until now, scientists have been unable to record these spontaneously-occurring waves in terms of fluid mechanics and their influence on the weather is therefore not taken into consideration in standard forecast models.

A large water tank in the BTU Fluid Centre – the experimental heart of the DFG project »MS-Waves« (Multiple Scale Gravity Waves) – aims to change this. At the Chair of Aerodynamics and Fluid Mechanics of Prof. Dr.-Ing. Christoph Egbers, scientists around apl. Prof. Dr. Uwe Harlander and Costanza Rodda are trying to make these gravity waves visible and describe their formation. »We know that these small inertia gravity waves do not simply have a short-term effect and their influence on currents in the atmosphere should not be ignored. We are therefore trying to find out more about these gravity waves in our experiment«, explains Prof. Dr. Uwe Harlander.

In this experiment the water tank, which is referred to as the »Barokliner wave tank« in scientific language, serves as a model of the earth. »We can independently regulate the temperature inside as well as on the outer wall of the tank and with this, we can reconstruct the temperature difference between the equator and the pole. If we then also rotate the tank, we have a test environment which largely corresponds to the atmosphere of the midlatitude«, says Costanza Rodda, a PhD student who is overseeing the experiment set-up. Once the experiment has begun, currents are created that in turn create waves. The team of researchers is, however, looking for waves that occur spontaneously and, to a certain degree, »sit« on the larger ones.

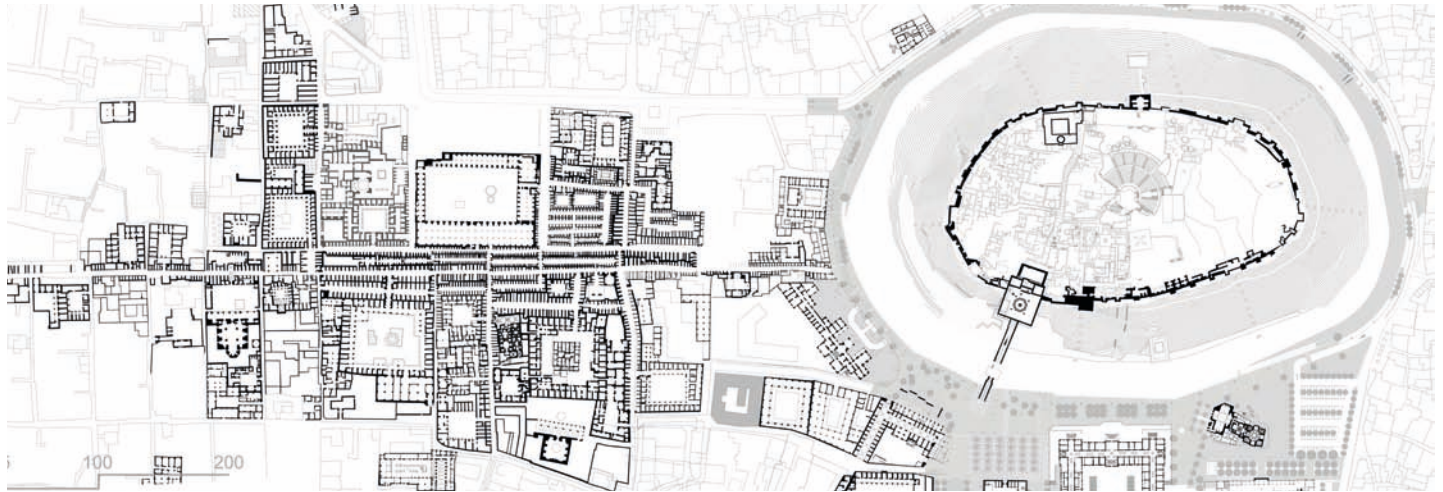
While other research groups are looking for the inertia gravity waves directly in the atmosphere, the BTU with the DFG equipment centre »Physics of rotating currents« offers the perfect conditions for reproducible experiments. In cooperation with the Goethe University Frankfurt, the Leibnitz Institute of Atmospheric Physics Kühlungsborn and the University of Lugano, it is planned that the experimental results will be converted into a new model for the description of spontaneous gravity wave emission. For this, the research partners are working on numerical modelling, preparing regional and high-resolution simulations of typical atmospheric currents and developing new statistical mathematical methods. Several internationally renowned research groups are examining the phenomena of the gravity waves worldwide. The



^ In the Barokliner water tank, spontaneously-emitted gravity waves are made visible under a green laser light

»MS-Waves« project is, however, the first of its kind that is researching the gravity waves from their formation in the lower atmosphere (0-10-kilometre altitude) to the breaking up of the waves in the stratosphere and mesosphere (50-80-kilometre altitude) by means of field measurement campaigns, numerical simulation and laboratory experiments. The project is being funded over six years with a total of 4.4 million euro, of which the BTU research group has been allocated 430,000 euro.

Chair of Aerodynamics and Fluid Mechanics
PROF. DR.-ING. CHRISTOPH EGBERS
APL. PROF. DR. RER. NAT. HABIL. UWE HARLANDER
COSTANZA RODDA



Detail of the digital map of Aleppo's old town with the ancient souk and the Umayyad Mosque, left, and Citadel, right

THE MEMORY OF HIDDEN TREASURES

A digital map of Aleppo's old town is helping to rebuild one of the biggest trading centres in the Middle East

The images went around the world: a city which lies in ruins, formerly one of the biggest trading centres in the Middle East. Scientists from the BTU Cottbus-Senftenberg are working on concepts for its possible rebuilding and, in this, a detailed, digital map of Aleppo's old town forms the basis for future plans.

Aleppo, the second biggest city in Syria and one of the oldest permanently settled cities in the world, has been suffering for five years due to the country's civil war. 2.5 million people lived here before the unrest yet today more than half the population has fled. During the civil war large parts of the city, in particular the old town, which was declared a UNESCO world heritage site in 1986, have been severely damaged.

A mammoth task lies ahead for the scientists headed by project manager Christoph Wessling – the systematisation of around 20 gigabytes of data. Up until the outbreak of the civil war, the city planners and architects of the university were involved in a socially compatible renovation and revival of the old town, which was threatened by disintegration and poverty. In 2004 the German-Syrian project, which was funded with 20 million dollars from the German Association of International Cooperation Services, was awarded the Urban Planning Award of the Harvard School of Design. The data that was collected then can now make rebuilding possible. The researchers digitally merged roads, footpaths, public spaces with fountains, statues and cultivated areas and floor plans from former buildings from 2011 and, in doing so, enable the city's reconstruction.

In the future it will be possible to type on a digital map of the old town on a computer, tablet or mobile and see all the building plans, photos and descriptions that have been collected for a particular place. Building structures which currently lie hidden under building debris will become visible. Where today you can only see rubble, the map will show the foundation walls, paths, alleyways and plot structures located below.

»These structures are the basis for UNESCO's World Heritage classification. With the project we want to awaken an awareness for the rebuilding after the destruction of war and prevent undesirable structural developments that ignore these important basic structures«, says Prof. Heinz Nagler, Head of Urban Planning and Design. »Our goal is to create a qualified basis for planning the rebuilding. Future individual structural projects can be positioned in this overall picture and evaluated accordingly. With this we can make an important contribution to the prevention of a possible, area-wide rehabilitation of Aleppo's old town after the civil war and enable a critical reconstruction, which also considers the interests of the residents«, sums up Prof. Dr. Klaus Rheidt, Head of Building History.

The completed map should be made available to the Syrian Heritage Archive at the German Archaeological Institute. Furthermore, Aleppo's city administration, urban planning managers and representatives, potential investors, decision makers and urban planners, scientists, journalists, publicists and the general public should also be able to use this map in the future as a basis for the classification and assessment of future projects.

The project is part of the pilot project »The zero hour – for a future after the crisis«, which is dedicated to the rebuilding in Syria. It is the first project which is being conducted as part of the Archaeological Heritage Network, a network for the preservation of cultural heritage. Both the network and the project are being supported by the Federal Foreign Office.

Urban Planning and Design

PROF. HEINZ NAGLER

CHRISTOPH WESSLING

Building History

PROF. DR.-ING. KLAUS RHEIDT

UNESCO'S WORLD HERITAGE LIST

In UNESCO's World Heritage List the cultural heritage of Christianity and the Middle Ages is represented more than that of other periods and regions

Cologne Cathedral, Wartburg castle and the palaces and parks of Potsdam and Berlin are on the World Heritage List of the United Nations Educational, Scientific and Cultural Organisation, UNESCO for short, and their protection as well as that of more than 1,000 other cultural and natural sites worldwide is secured. The UNESCO's World Heritage List is probably the best-known collection of humanity's most exceptional sites. It is, however, not representative as the number of Arabic monuments is under ten per cent in comparison to the European and North American sites which account for almost 50 per cent. The cultural heritage of Christianity and the Middle Ages is significantly more represented than that of other periods and regions. However, UNESCO's goal is the equal representation of the heritage of all historic societies and civilizations on the list.

»All of UNESCO's strategies during the past two decades to reduce European dominance have not been successful. The list is today more European than ever«, says Prof. Dr. Britta Rudolff, guest professor of the Cultural Management Chair. She is researching a strategy concept which aims to highlight a way out of this dilemma. The pilot study of her current project will take place in the region that is especially under-represented on the World Heritage List, namely the Arabic region. »Within the context of the special threat that the Arabic cultural heritage is facing due to armed conflicts, this focus is very important as the damage being caused could further reduce international interest in this region's cultural heritage«, says the scientist. To achieve this goal the cultural management researchers are networking with world heritage experts at

the universities in the Arabic states. Together they will define topics and methods which will contribute to a more balanced representation of the regional heritage in the world.

The »Analysis of the UNESCO Global Strategy« project is being financed over a period of three years starting in 2017 with around 120,000 euro by the regional centre for world heritage in the Arabic states, a UNESCO office.

In 1972, UNESCO signed the Convention for the Protection of World Cultural and Natural Heritage. Since then, 195 countries have signed this convention, which is the internationally most significant instrument ever agreed by a community of nations to protect their cultural and natural heritage.

Number of world heritage sites according to region (Source: UNESCO 2016)

- 1 – Europe and North America (47 per cent)
- 2 – Asia and Pacific (23 per cent)
- 3 – Arabic states (8 per cent)
- 4 – Africa (9 per cent)
- 5 – Latin America and the Caribbean (13 per cent)

Cultural Management Department
GUEST PROF. DR. PHIL. BRITTA RUDOLFF

The pillars of the colonnaded road in the destroyed Syrian city of Palmyra were once adorned with statues of important figures of the city along a distance of 1.2 kilometres



RESOURCES AND RECYCLING

Efficient methods for recovering precious raw materials

High-tech products, such as smartphones, laptops and solar modules, are a real gold mine as they contain valuable metals such as precious metals, rare earths and numerous transition metals that are lost if these items are disposed of carelessly. Mining these metals often involves a significant disturbance for the environment and their preparation requires, in most cases, the use of many chemicals and energy. Furthermore, the deposits of these metals are limited and they will no longer be available for future generations. It is, therefore, becoming increasingly important to find efficient methods that can recover these elements from residual production materials and devices that have reached the end of their lifespan. A common problem in the recovery of precious metals from high-tech products is caused by new and complex material composites in which the materials of these metals are embedded. For many of these material composites, recycling methods haven't been established yet. Prof. Dr. Jörg Acker and his team from the Physical Chemistry department are working on the development and evaluation of such methods. They are researching the recovery, enhancement and cleaning of precious elements and composites. It doesn't matter whether this involves precious metals in catalysts, electrical components and solar cells or nickel, manganese and cobalt from lithium-ion batteries.

And it is not only recycling end products that is an important topic. Residual materials that occur in production also need to be recovered and prepared for reuse. For this, the Senftenberg researchers are, for example, developing methods for the preparation of badly contaminated silicon particles from solar wafer production. Even more sophisticated than this is the recovery of residual materials that occur in the manufacture of lithium-ion batteries without the loss of their most important property – their storage capacity.

In numerous collaborations with partners from industry and science, the experts are working on the development and characterisation of new crushing and material separation processes. They have, for example, succeeded in developing a very effective method for the separation of metal-ceramic composite materials and, at the same time, were able to analyse all process steps in terms of material.

Characterising the material flow of various manufacturing and production processes is also an important part of the research work. This enables the quantification of any losses, the ascertainment of type and place of contamination with contaminants and also the purity of intermediate and end goods. This can help optimise existing process steps or prevent those that previously required the use of aggressive and toxic acids. The team of highly motivated scientists, technicians and students is working on this with the aid of the latest analytical methods.

Department of Physical Chemistry
PROF. DR. RER. NAT. HABIL. JÖRG ACKER



◀ Prof. Dr. Acker and his team are working on optimisation process steps for industry with the latest analytical methods

»THE OBSTACLES ARE IN OUR MINDS«

Prof. Dr.-Ing. Angelika Mettke awarded with the German Environment Prize, talks about resistance in the construction industry and her enthusiasm for her job

BTU NEWS: Congratulations on winning the 2016 German Environment Prize. What significance does this have for you?

→ **PROF. METTKE:** I associate being able to receive the Environment Prize with an immense joy that is hard to put into words and recognition of my many years' commitment to sustainable and future-orientated building. At the same time, I am highly motivated to develop further solutions to generate recycled building materials and components as alternative sources of raw materials. With my work I hope that I can reach even more participants in the construction industry who are willing to use used building components and recycled building materials.

BTU NEWS: What benefits do reusable concrete slabs have in comparison with new ones?

→ **PROF. METTKE:** It is environmentally friendly as the natural raw materials that are required for the manufacture of concrete no longer need to be exploited. At the same time, the energy, which is needed for obtaining and preparing the raw materials as well for the production process of the concrete, is saved. In turn, the significant reduction of energy consumption considerably decreases climate-relevant emissions.

BTU NEWS: Which project was especially important to you?

→ **PROF. METTKE:** One example is the building of the club house in Kolkwitz near Cottbus, which was completed in 2009. At that time, the chairman of the sports association asked me whether I could imagine building a club house made out of used parts of prefabricated buildings and I immediately thought this was a great idea. We needed a building that could »donate« the parts and then the planning work could commence. An architecture student from our university came up with the concept for the club house and, on the basis of the drafts, a local planning office then worked out the final planning documents. A total of 80 concrete elements were used in the building – 40 of these in the roof, 20 in the outer and 20 in the inner wall. The building's shell construction with a 400m² area was completed in only four working days. Thanks to the re-use of the concrete elements, costs were saved and the environment protected.

BTU NEWS: What is the role of the building rubble formed when a building is pulled down?

→ **PROF. METTKE:** Around 55 million tonnes of building rubble are produced in Germany each year and a large part of this, approximately 78 per cent, is processed in recycling facilities. The aggregate that is generated here is used mainly in road and path construction or for filling excavation sites. However, the material's properties mean it can also be used again for manufacturing concrete. We can also prove that recycled concrete is exactly the same as normal concrete in terms of quality. Cities produce a great deal of building rubble and there is also a high demand for new buildings – the ideal conditions to use recycled concrete.



Prof. Dr.-Ing. Angelika Mettke, winner of the German Environment Prize 2016

BTU NEWS: You are a pioneer in this field. How does this feel?

→ **PROF. METTKE:** I am pleased that I never gave up promoting recycling measures despite resistance on numerous occasions. I am really convinced that, with my work, I am making a contribution to ensuring that our children and their children will not be deprived of the resources needed for life and contributing to protecting our environment. Considerate and careful planning and implementing these kinds of building projects in practice is important. This also includes the immediate transfer of research findings and new insights into industry and education and further training and for this I have the best conditions at the BTU Cottbus-Senftenberg.



< Aleksandra Kosykh with a surveying instrument in the roof framework (photo: Chair of Construction History and Structural Preservation)

A NEW WORLD IS EMERGING

PhD studies in the DFG Research Training Group: As part of her PhD thesis, Aleksandra Kosykh is examining the supporting structure of the Marble Palace in Saint Petersburg

When Aleksandra Kosykh entered the Marble Palace in Saint Petersburg for the first time, the dust could still be seen. Here, a new world is emerging and waiting to be researched. She now has six weeks to take a close look at this building. The PhD student gets to work enthusiastically. She has a brush, light, marker pens, tape measure as well as the latest measuring equipment with her. Cautiously she wipes the dust of the centuries away with a brush, marvels at the roof framework and documents that which has, until now, remained hidden from the public. Aleksandra planned her research trip meticulously yet she is still somewhat nervous. The building's roof framework is 240 years-old and was made of forged iron, which is quite a sensation as, according to classical construction history, the roots of steel construction were only laid later in England and France. »The exciting thing is that no-one has previously examined the Marble Palace and other buildings with iron supporting structures in Russia. We don't have any literature about this and, in most cases, not even photos. These are the first large roof supporting structures that were ever built out of iron«, says the Russian PhD student from Perm enthusiastically.

Alongside the examination of the building construction on-site, the measuring and photo documentation, it is also the work in the Russian archives and libraries that takes up most of the time. For this as well as the contact with the authorities, excellent Russian language skills are a major advantage. Her supervisor, Prof. Dr. Werner Lorenz, is very ple-

ased with the stroke of fortune that a native speaker is working on this project. The goal is to write the history of iron construction in 18th century Russia. »This is the start of a new language in construction, namely that of steel building. The builders firstly had to learn how to work with the new building material, they tried out various things and orientated themselves to role models – similar to a child learning a new language. In our research, the building is the text that must be read«, says Professor Lorenz. Documentation is the groundwork, which is followed by the interpretation. How did this come about? Are there models from wood construction that were used in steel building? And what can be learnt from this for the current development of new construction languages, for example, with carbon fibre materials?

Aleksandra Kosykh is impressed with the considerable involvement and enthusiasm of her supervisor as well as other colleagues and PhD students. It feels right and really good to be doing exactly this project at exactly this university. She also gets ideas and valuable tips for her work in the DFG Research Training Group »Cultural and technical values of historic buildings«, in which classical archaeological viewpoints meet those of civil engineers. »There is a lively academic exchange at the weekly colloquia for PhD students and this helps develop your own project further«, says Aleksandra Kosykh. Besides this, the research training group also offers an accompanying lecture series with internationally distinguished experts, special courses, for example, on writing academic texts, information on background topics and excursions.

The Graduiertenkolleg 1913 research training group funded by the German Research Association (GFG) aims to scientifically research historic buildings in the differing contexts of art, technology and society in various time frames and cultural groups. New: the focus on technical and technological aspects as well as their classification and evaluation in terms of culture and history. The cultural and technical aspects of building are equally at the centre of the interdisciplinary debate. The subject of the research training group touches upon important interests of historic building research, structural engineering history, art history, historic preservation, archaeology as well as the historical and social sciences. With the combination of the different perspectives of the participating disciplines, it is particularly the scientific fields of engineering sciences and the arts that associate with one another to create new common foundations for the evaluation of historic buildings.

Construction History and Structural Preservation
PROF. DR.-ING. WERNER LORENZ
ALEKSANDRA KOSYKH

www.b-tu.de/forschung/dfg-graduiertenkolleg

BUSY RESEARCH SEMESTER IN THE USA

Prof. Dr. Cunningham used his sabbatical for a cooperation project with the UC Berkeley

While nowadays sabbaticals are being increasingly taken by people working in private enterprises they were, for a long time, associated with professors taking time out from teaching for research purposes. Professors in Germany have also been able to make use of these research semesters since the 1990s. Prof. Dr. Douglas Cunningham from the Graphic Systems department took up this opportunity last year for a stay at the University of California in Berkeley. In this interview, he discusses the reasons for doing this, research projects and his impressions of the US American university, which is currently tenth in the Times Higher Education World University Ranking.

BTU NEWS: Mr. Cunningham, you took a four-month sabbatical at the end of 2016. What was the reason for this? And why did you choose the University of California?

→ **PROF. CUNNINGHAM:** In daily university life, it is important for me to be able to offer students the best possible support. The sabbatical gave me the opportunity to use the time that I usually need for lectures or overseeing Master's papers for important research projects. I chose the UC Berkeley because I was able to work with Prof. Dr. Martin Banks there. He is internationally renowned for his research on the psychology of perception and is the ideal partner for my field of research.

BTU NEWS: On which subject did you work together?

→ **PROF. CUNNINGHAM:** In the project »An Integrated, Mathematical and Computational Model of Human Shape Perception in Static Images« we want to get computers to convert two-dimensional images into a 3D model. For this we prepared initial experiments and mathematical models and wrote and submitted the research application. Putting a DFG research group together on embodied discussion agents also represented an important work package. This involves, to a certain extent, virtual people who can recognise and express emotions by facial and language recognition. Furthermore, I was also able to use the time to complete several important academic articles.

BTU NEWS: How will the work you did during your sabbatical affect the BTU?

→ **PROF. CUNNINGHAM:** If our project is approved, a mutual exchange between both universities is planned, which means there will be a block lecture by Prof. Banks here at the BTU. What's more, PhD students from

both universities could then go to Berkeley or come to the BTU. I think there will be many new ideas and the prospect of further collaborations with UC Berkeley. Furthermore, with the »Symposium for Applied Perception« we have brought an important international event to Cottbus this year.

BTU NEWS: You have been living in Germany since 1999. What was it like for you as a native US citizen to go back to the USA again after being away for so long?

→ **PROF. CUNNINGHAM:** It was, of course, very exciting to see how much the country has changed in the 17 years of my absence. I experienced major events that happened here, such as 11 September 2001, in Germany. Increased security measures and also certain political tendencies were also new for me. Seen like this, returning to my home country was almost a culture shock. On the other hand, it was very interesting to see how much importance is given to feeling good and at ease at UC Berkeley, where a secure and positive atmosphere was important to all staff and students.

Thank you for the interview!

Department of Graphic Systems
PROF. DR. DOUGLAS W. CUNNINGHAM

Prof. Dr. Douglas Cunningham (centre) with Prof. Dr. Martin S. Banks (r.) and Peter Ills in Bank's Lab at UC Berkeley.



STUDY & TEACHING

FROM ALL OVER THE WORLD TO BTU

Around a quarter of the students at the BTU come from another country. BTU News spoke to three prospective academics who have come to study or do a PhD in engineering at BTU. Their accounts are largely positive

If you walk along the Konrad-Wachsmann-Allee, you will be able to hear a different language with almost every step you take. English and Spanish to the fore, Polish to the rear and perhaps a few snippets of German and Chinese in between. BTU Cottbus-Senftenberg is extremely international and a colourful place to be – something which is also noticed and appreciated by the many guests from near and far. In Germany, one in eight students comes from abroad. In Cottbus the ratio is even higher: here almost a quarter of BTU students hail from other countries. The Federal Ministry of Education and Research recently announced that in 2017, for the first time, more than 355,000 international students were registered at German universities. This means that the target of universities and politics of 350,000 by 2020 has already been exceeded. According to figures of the Federal Statistical Office, Germany is one of the most popular worldwide destinations for international students after the USA, Great Britain, Australia and France.

One of these students is **Asma Msalmi** from Sousse in Tunisia. She has been working on her Bachelor's dissertation in aircraft engine design, entitled »System safety analysis of a new-style acoustic liner concept for aerotechnical application«, with Prof. Dr.-Ing. Klaus Höschler since March. Engineering is still a largely male-dominated discipline, both in her home country and in Germany, but for the ambitious student this is her dream course. The foundation for this was laid early on as she comes from a family of engineers: her parents are professors of engineering at her home university of Sousse and her brother has also been studying this subject for three years in Stuttgart. The Tunisian has always been interested in engine technology and so the decision to study at BTU was quickly made; another



Asma Msalmi

important factor in her choice was the close cooperation of the department with Rolls-Royce.

At only 25 years old, Asma Msalmi already knows exactly what she wants: »I'd like to do my Master's at BTU in October. After successfully completing this I'd like to stay in Germany and work at Rolls-Royce. The employment prospects for engineers aren't very good in my country – there's hardly any work and the pay is very low.« She is working hard to reach her goal. And so she spends a lot of time in the library or writing her Bachelor thesis in the department's office. She also attends German classes twice a week as this is the language of her thesis. She's very happy with the conditions of the engineering studies course. »I really like it here, particularly the quality of the teaching. The fact that it is a small university and that lecturers take time for the students is also a major advantage – particularly in comparison with the Berlin universities«, enthuses Asma Msalmi. She thinks Cottbus is a nice town, peaceful and tranquil. The local people are kind to her and she has already made many new friends from various countries. »It is one of the best experiences of my life so far.«

BTU Cottbus-Senftenberg is also the ideal place for students who have already completed their degree and now want to do a PhD: **Chetan Kumar Sain** from India and Luis Costero Sánchez from Spain are both studying for a PhD in aircraft engine design under Professor Höschler.

Chetan Kumar Sain has already been in Germany for 12 years. During his engineering studies he attended lectures on aircraft engines given by BTU professors and was really impressed by the quality of



Chetan Kumar Sain

the research work at the Lausitz university. He found out more about studying for a PhD in Cottbus and has now been an academic staff member at BTU for four years. »I am working on an EU project in which I am developing concepts for variable jets on future turbofan engines for larger aircraft. As a mechanical engineer, I design 3D-modelled concepts and do the performance calculations on the whole engine with the aid of flow and structure analyses. Out of the many concepts I have developed myself, I have had one patented so far and am registering a second this year. The development of variable jets for large engines is also the subject of my dissertation«, says Chetan about his work.

However, after six years in Berlin, Chetan Kumar Sain not only chose BTU because of the excellent research conditions here but also because of the town of Cottbus. Here he has found a family-friendly town surrounded by green spaces, which is great for a young family and means that he can avoid dealing with the stress of a big city. »My day starts with breakfast with my 3-year-old son. We take it slowly and also watch Sesame Street at the same time. Then we get ready for kindergarten and work. With helmets on and small steps on his little balance bike, we get to his nursery in only 10 minutes, where my son says goodbye and disappears into the group of children there«, says the father. He and his wife are really happy with their great neighbourhood and enjoy living in Cottbus.

Since last year, **Luis Costero Sánchez** from Madrid has also been part of Professor Höschler's team. The Spaniard values the cooperation between the department and Rolls-Royce and is grateful for the opportunity to do his PhD at BTU, although he did his second degree at



Luis Costero Sánchez

a university of applied sciences (Beuth University of Applied Sciences Berlin). As part of his PhD dissertation he is examining the integration of heat exchangers. »I spend most of the time working on the computer as I have to do many simulations to find out whether the generated concepts will work as planned. Here the exchange with colleagues is very important as this continuously leads to new input«, explains Luis Costero Sánchez. In the afternoons, he uses BTU's extensive sports offering and tries something new every semester. He's already been able to tick the boxes for badminton, swimming, spine strengthening exercise and yoga. At the weekends he is there for his family – his wife and children live in Berlin and so he commutes and benefits from the good rail connection between Cottbus and the capital. And his plans for the future? His dream job would be in the Berlin region in a company where the employees are committed to pursuing their goals, teamwork comes top and everyone is working towards a common goal. The same principles apply to his work to counter xenophobia. »Institutions and citizens need to work together and oppose any form of racism. I also take part in demonstrations against right-wing extremism and welcome that the university also announces and supports these.«

»IT WAS AN ENRICHING EXPERIENCE«

Young researchers report insights to their internships at the BTU Cottbus–Senftenberg

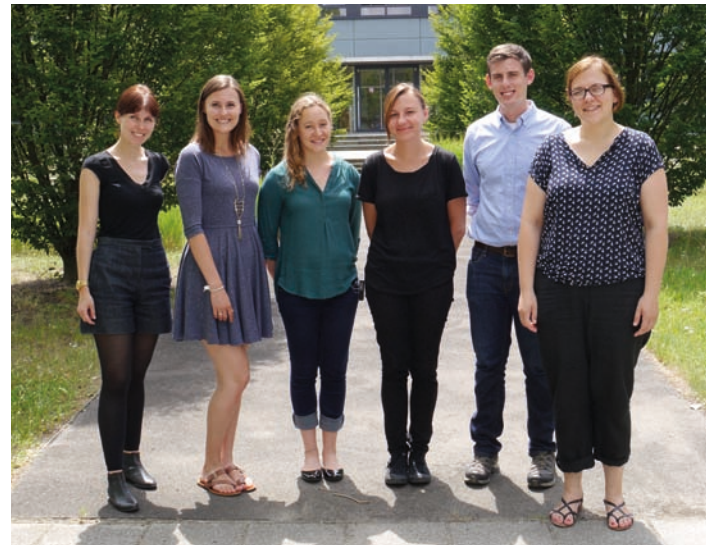
Germany is a popular research destination for scientists from abroad. This includes young students who are interested in research as a career. While young German scientists are drawn to the high-ranking universities in North America and Great Britain, Germany itself is a desirable research destination for young students from the USA, Canada and Great Britain. The students Bridgette Steiner, Laura Barber and Zachary Broth applied for the competitive summer internship program RISE Germany – Research Internships in Science and Engineering at the Brandenburg University of Technology Cottbus–Senftenberg. They became part of the Research Training Group 1913 »Cultural and Technical Values of Historic Buildings« of the Deutsche Forschungsgemeinschaft (German Research Foundation) where scientists aim to investigate historic buildings from different time periods and cultures.

Laura Barber grew up in Atlanta, Georgia, and is now a third year student at Washington University in St. Louis. She is majoring in mechanical engineering with a minor in energy engineering. This summer she was working with Karoline Manfrecola, who is researching the architecture and history of Domitian's Villa near Castel Gandolfo in Italy. »I used AutoCAD, a professional software to create a three-dimensional model of the ancient ruins«, Laura points out. »My favorite moment in Cottbus was walking around during the summer festival. It was huge and it seemed like everyone in Cottbus was outside enjoying the rides and performances.«

Bridgette Steiner lives in Nashville, Tennessee where she attends college at Lipscomb University. In fall she will begin her final year studying Computer Engineering. In Cottbus she was working with Sabrina Flörke on her dissertation on the Alsen Villa Colony in Berlin-Wannsee (1863–1898). Daily activities included transposing old blueprints into ArchiCad and researching relevant architectural styles as well as research in the field of genealogy. »My favorite experience in Cottbus so far has been seeing people's enthusiasm for the UEFA matches when I attended a public screening«, she says.

Zachary Broth is currently studying civil engineering at Queen's University in Kingston, Ontario, Canada. Though studying in Canada, he is originally from Concord, New Hampshire, in the United States. During his time in Cottbus Zachary worked with Sabine Kuban at the chair of construction history and structural preservation. »My task was to investigate and document two different reinforced concrete structures in Berlin with a focus on the process of construction and the positioning of reinforcement as well as the current status of each building«, Zachary highlights. »I summarised my findings in a final report along with supplement photographs and AutoCAD drawings.« During his free time in Germany he enjoyed traveling to surrounding destinations, trying the local food, and tasting a variety of different beer.

Among the interdisciplinary and international group of researchers Laura, Bridgette and Zachary were able to come into close contact with a variety of methodologies, to learn new research skills and to get a grasp of German university life. Their work helped to advance each PhD project by focusing on specific aspects while having the time to explore new ideas.



^ The interns and the doctoral students from left to right: Sabrina Flörke, Bridgette Steiner, Laura Barber, Karoline Manfrecola, Zachary Broth, and Sabine Kuban worked together at BTU this summer

Karoline Manfrecola and Sabine Kuban successfully participated in the RISE programme already in 2015. Their very positive experience encouraged Sabrina Flörke to also offer a placement through RISE this year. »We would like to thank the DAAD for organising the placements and the DFG Research Training Group 1913 for funding these exchanges. It was an enriching experience and a productive cooperation within each research project«, emphasise the scientists Karoline Manfrecola, Sabine Kuban and Sabrina Flörke.

The DFG Research Training Group »Cultural and Technical Values of Historic Buildings« aims to investigate historic buildings from different time periods and cultures. The researchers combine methodologies used in humanities and engineering. The interdisciplinary group includes not only PhD students, postdocs and associated scientists. It also welcomes young international researchers coming from programmes like the DAAD RISE internships.

DAAD RISE GERMANY

DFG Research Training Group 1913

»Cultural and Technical Values of Historic Buildings«

PROF. DR.-ING. KLAUS RHEIDT

SOPHIA HÖRMANNSDORFER

RISE Germany by the DAAD German Academic Exchange Service pairs undergraduate students with doctoral students at a German research institution to work on a specific project. The interns sharpen their skills and acquire new methods in the lab or during field work and have the opportunity to gain cultural knowledge while traveling in Germany and Europe on their days off. Since it was initiated in 2005 RISE Germany has become extremely popular: In 2016 more than 1700 students and undergraduates applied for 581 internship offers. 300 applicants were awarded a scholarship.

www.b-tu.de/dfg-graduierntenkolleg-1913

»THE DAAD AWARD IS A GREAT SUCCESS FOR ME«

The DAAD Award honours excellent academic achievement and intercultural commitment: Nicole Franceschini is one of the award winners

Born in a small village near Trento in northern Italy, Nicole Franceschini today attends conferences and congresses around the world. After a Bachelor in Cultural Heritage from Verona University and a semester abroad at the Bilkent Üniversitesi Ankara, the Italian wanted to venture further into the world. »I wanted to do a gap year and flew to Bremen. Here I took a German course and worked as a waitress in an art cafe. I enjoyed the work but the desire to study further increased. After I had had a look around, I chose the Master's degree in World Heritage Studies at the BTU Cottbus-Senftenberg.«

During her studies, Nicole Franceschini supported numerous projects, including fundraising activities for rebuilding Nepalese cultural sites after the earthquake of 2015, as well as the organisation and logistics of a BTU UNESCO workshop. She also exhibited her social commitment as a BTU Buddy and in the student council. »Alongside this, one of my projects involved the development of recommendations for the management of Islamic cultural heritage and a further one led to the nomination of the Beelitzer Heilstätten (a former sanatorium near Berlin) for the World Monuments Watch list. As part of a short internship for the International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM), I also took part in the 39th meeting of the UNESCO World Heritage Committee in Bonn in 2015«, says the 27-year-old about her extensive experience. In spring 2016 the committed DAAD award winner then travelled to Honolulu, Hawaii, as social media specialist for the ICCROM for a conference.

The busy student has also received a very special award for her achievements: the DAAD Award of the BTU. »I feel honoured to have been chosen. This award is very important to me as it recognises my efforts as a student in both the academic and social fields.«

Nicole Franceschini enjoys living and working in Cottbus. The multicultural environment, the welcoming atmosphere at the university and the town, which is surrounded by greenery – all this gives her the feeling that she is in the right place. In her free time, she likes cycling and explores the local area heading out towards the Spreewald or goes in search of times past on journeys of discovery to forgotten places in Brandenburg and Berlin.



^ Nicole Franceschini is justifiably proud of her award

Nicole will continue to remain in Cottbus for the time being: »In my Master's thesis I examine the UNESCO's current global strategy – an action plan which was already launched in 1994. I take a critical look at this and highlight shortcomings in the representativity of several member states. I am now continuing this research in a PhD at the BTU.«

THE DAAD AWARD

The international students at our universities enrich the university community from a cultural as well as academic viewpoint. To honour this, the DAAD Award is awarded annually to students from abroad who are studying in Germany and excel with outstanding academic achievement and notable social or intercultural commitment.

The award, which comes with 1,000 euro and is funded by the Foreign Office, is awarded annually at the BTU Cottbus-Senftenberg for outstanding achievements by foreign students.

DAAD Award winner and PhD student in Architecture
NICOLE FRANCESCHINI

STUDENTS HONOUR THEIR PROFESSOR

BTU Professor Dr. Jan-Heiner Küpper has been awarded one of three state teaching prizes that come with €5,000 prize money

Professor Küpper was nominated for this year's state teaching prize by his students for his project »Molecular Biotechnology and Society« in the international Master's Biotechnology course – an award where lecturers have excelled themselves in the »Student's nomination« category for the third time in succession.

Tina Helmecke, who submitted the nomination together with ten other students said, »I am particularly impressed with the versatility of his lectures as well as the high degree of application orientation. His skilful presentation of controversially discussed topics in biotechnology, such as the embryo protection law and gene therapy, also makes people outside the university think about the responsibility that the scientists of the future have.« The students also highlighted that Prof. Dr. Küpper not only has broad expertise in his specialist field but has also gained numerous experiences in the industry.

On 18 July 2017 the state teaching prize for outstanding university teaching was awarded to Prof. Dr. rer. nat. habil. Jan-Heiner Küpper of the Institute of Biotechnology of BTU Cottbus-Senftenberg in a special ceremony by the Brandenburg Minister of Science Dr. Martina Münch. The topic of this year's contest was »Conveying social responsibility« and the state teaching prize, which was awarded to three teaching projects in total, this year for already the fifth time, comes with €5,000 prize money. The state's other two prizes went to the University of Applied Sciences Potsdam and the Brandenburg University of Applied Sciences. The jury that chooses the prize winner comprises of established experts, including past winners, former vice presidents of teaching, representatives of the Brandenburg Network of Study Quality and students. Lecturers of the state universities are able to apply for the prize with their teaching concepts and students can also nominate their best teachers. Past winners of the state teaching awards have always included BTU lecturers.

BTU President Prof. Dr.-Ing. Jörg Steinbach is proud that BTU students have, once again, nominated their professor for this prize and that this was then confirmed by the jury: »In Jan-Heiner Küpper, our Biotechnology students have a professor who has an immense enthusiasm for his subject



△ Prof. Dr. Jan-Heiner Küpper with Minister Dr. Martina Münch (centre) and Tina Helmecke.

and he evidently succeeds in creating equal enthusiasm amongst his students. This is evidence of the good relationship and trust that exists between the professor and his students.«

There are currently 229 Biotechnology students enrolled at the BTU, 45 of which are doing the Master's course. Biotechnology has a wide-ranging spectrum and is closely associated with the challenges of our society.

Prof. Dr. Jan-Heiner Küpper is head of Molecular Cell Biology at BTU Cottbus-Senftenberg and teaches both the Bachelor's as well as the international Master's Biotechnology courses. He was awarded the teaching prize of the state of Brandenburg for his »Molecular Biotechnology and Society« project. Prof. Dr. Küpper is extremely pleased that his students nominated him for the prize. He says, »in my course I address several dimensions of biotechnology that have an impact on society. These include political and ethical dimensions, for example, relating to stem cell technologies, the significance of biotechnology for the diagnostics and treatment of illnesses but also engineering science and environment-related aspects, such as limiting climate change. I try to get my students to be responsible with their repertoire of knowledge and methodology and assume their task as representatives of biotechnology.«

MILAN, TOKYO, BAYREUTH

Prof. Simone Schröder, sought-after soloist at big opera houses, teaches Vocal Studies and Vocal Didactics at the BTU



Prof. Simone Schröder in the concert hall on the Sachsendorf campus.

Prof. Simone Schröder has been a regular guest at the Bayreuth Festival since 1996, performs as soloist at the world's big concert venues and has worked with famous conductors, such as Daniel Barenboim, at Milan's Scala and Staatsoper Unter den Linden, Kent Nagano, Giuseppe Sinopoli and Plácido Domingo at the Washington National. She is also professor of Vocal Studies/Vocal Didactics at the BTU. In this interview she discusses what she likes about her job.

BTU NEWS: Prof. Schröder, you were appointed professor for Vocal Studies in 2001. How does this fit in with your worldwide success as a soloist?

→ **PROF. SCHRÖDER:** It fits together wonderfully. As a lecturer you must have a good reputation in your subject. Students only come to us if they see that this involves someone who knows what they are talking about. I like training and passing on my knowledge and experience to young people.

BTU NEWS: What distinguishes our BTU Instrumental and Vocal Education course?

→ **PROF. SCHRÖDER:** We are not too big! This ensures a quality education that can be maintained, and we do, of course, also see this in our students' success. We intensively support our students for four years and know each one of them personally.

BTU NEWS: What does our curriculum offer?

→ **PROF. SCHRÖDER:** Many students come to us because we also offer, besides the main subject of Instrumental or Vocal Studies, an instrumental subsidiary subject and elementary music education as well as elementary music theory. The course's wide scope offers graduates excellent employment possibilities. Furthermore, we have also integrated many internships into the course to enable students to acquire teaching practice as early on as possible.

BTU NEWS: What do you think the campus location offers music students?

→ **PROF. SCHRÖDER:** Our location is ideal. Big cities offer plenty of distraction, but students need to use the time spent on a music course in-

tensively and our campus in Sachsendorf allows students to focus very well. And, if you do want to go to a big city, Berlin and Dresden are only around a one-and-a-half-hour's journey away.

BTU NEWS: Does this perhaps also apply to you to a certain extent? You come from Cottbus, spent years going on tour and still travel to opera performances and concerts around the world several times a year.

→ **PROF. SCHRÖDER:** Yes, there is a little truth in that. When I initially arrive in a hotel, in Tokyo for example, or anywhere else, I do feel a bit lonely, but this then changes with this first rehearsal when I meet my music colleagues. In that moment, we become a big family of musicians.

BTU NEWS: You have already given us great pleasure with your solo performances at two university Christmas concerts. What distinguishes your voice?

→ **PROF. SCHRÖDER:** The special thing is that my voice suits the »serious subject« and carries well. This means that I am often asked to perform Wagner, Strauss and Mahler. I do, of course, also like to sing Italian works, baroque music and song concerts.

BTU NEWS: How did you learn this? How much talent and training are needed?

→ **PROF. SCHRÖDER:** A good voice and musical talent alone are not enough! You have to train a lot – up to ten years is needed to master your voice technically. A singer must perform in their entirety with psyche as well as with physical and mental means. In addition, discipline, the willingness to take risks, confidence, steady nerves, cleverness and »brains« are also required.

Thanks for the interview!

DOROTHY NALUMU FROM UGANDA CAME TO STUDY IN COTTBUS

A BTU student is researching to help preserve the environment and improve waste management in her home country

Dorothy Julian Nalumu was born in Nyenga, Uganda in 1990. In 2003 she decided she wanted to pursue a career in environmental management. At that time, the student was doing an exchange year in the Karamoja region, northeast Uganda, and often travelled there. »This experience of having hot days and very cool nights, tasting the salty and hard water and feeling the dry winds and knowing the great challenges that these climatic conditions pose to the people of the Karamoja region had a strong impact on me. From that moment I wanted to learn more about the geography of my country«, recalls Dorothy Nalumu.

With a Bachelor's degree in environmental management from the Makerere University Kampala in Uganda, Dorothy chose to do a Master's in Environmental and Resource Management (ERM) at the BTU Cottbus-Senftenberg in 2014. »I looked at the course on the website and thought that the modules were really interesting. In comparison to other cities in and outside Germany, studying and living in Cottbus is very enjoyable and not that expensive. The BTU's International Relations Office was also great and always answered my questions quickly and in a friendly way.«

Dorothy likes that the programme of her studies is flexible and that there is a strong practical orientation and good relationship between the students and lecturers. She finds it easy to come into contact with the lecturers and likes the teaching methods. »I had to give a talk and complete several oral examinations for almost all modules and this is really good practice for gaining confidence and rhetoric skills for public presentations. At my university in Uganda there is more focus on essay writing and written examinations instead.«

Dorothy Nalumu wrote her Master's thesis on the potential of fruit tree plantations in informal settlements on steep slopes in Kigali, the capital of Rwanda, East Africa. This aims to highlight the multifunctional benefits of select fruit tree varieties for adaptation to climatic and environment-related risks (landslides, flooding) and for an improvement of the food supply for the poorer groups in society. After her first visit to a workshop in Kigali in June 2016 which was enabled through the »Rapid Planning« project in the environmental planning department and funded by the Federal Ministry of Research, she came up with the idea and began work feeling highly motivated. A few months later, she flew to Kigali again where she helped plant fruit trees as part of a project at a primary school. »This internship gave me the opportunity to work on my research project more and the results show that until now not enough attention has been given to fruit trees in Rwanda and in Africa, in general, in comparison with their multi-functional benefits with regard to ecological and socio-economic aspects«, says the ambitious student. After her studies she wants to return to her home country with her newly acquired knowledge and work on the challenges in waste management here. In a case study on the problems in dealing with communal waste in Uganda, she found out that 35 per cent of household rubbish that is produced daily is not correctly collected. »I think that we can manage the challenges of the waste industry by focusing more on the subject. Corresponding educational programmes are needed not only for the communes but should also be integrated into school lessons«, says Dorothy Nalumu. Her goal – a future generation that is careful with its environment. ➔

Master's student in Environmental and Resource Management
DOROTHY NALUMU



◀ Dorothy Nalumu from Uganda is doing her Master's in Environmental Management and after this wants to use her newly acquired knowledge to tackle the challenges of waste management in her home country

WHEN A BIG DREAM COMES TRUE

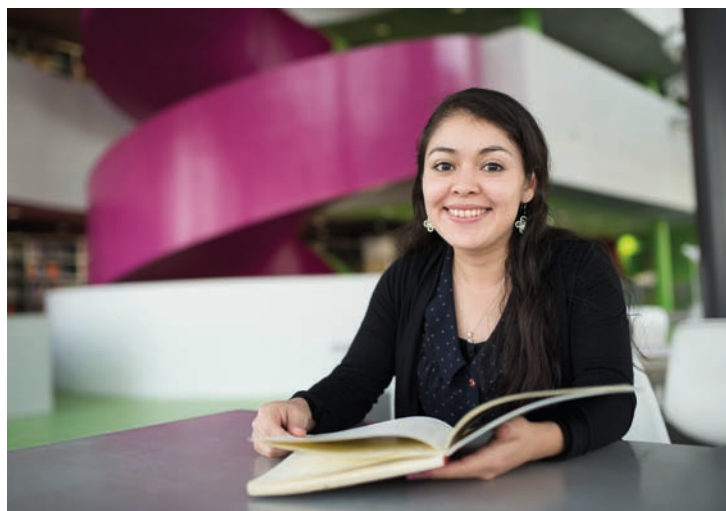
María Teresa Cruz from Nicaragua is studying World Cultural Heritage and, with her newly acquired knowledge, wants to make her home country a little bit better

It is cold and the days are getting shorter. The leaves are falling from the trees. Everything is so different. Different to home in Nicaragua. Despite this, María Teresa Cruz was overjoyed when she came to Cottbus to study in October 2015. She had made it – at last! It hadn't been easy and there had often been difficulties along the way. Looking back, her life has always been connected with Germany in one way or another – whether through stories about German immigrants or the extensive humanitarian aid of the GDR during the revolution in Nicaragua at the end of the 1970s. The 34-year-old has discovered her love of Germany and, in particular, Brandenburg. "In my first year of study in Nicaragua, I was at an event and I found myself in front of the stand of the German Embassy. On reading the information about studies in Germany it became clear to me that this was exactly what I wanted. Since then, this dream has remained in my mind and in my heart", she recalls. She also took a book about Brandenburg, which she had won in a history quiz, back home with her.

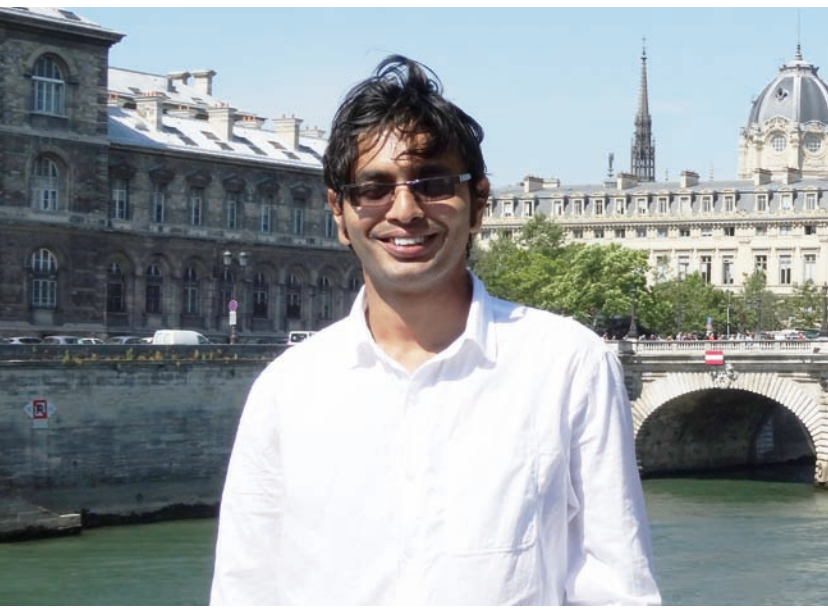
After her studies, María Teresa Cruz first worked as a tourism agent at a nature reserve. She liked the combination of culture and environment and this also showed her how important the protection of nature and regional treasures is. »I wanted to professionalise myself in this field and learn more about the opportunities in the management of nature and culture to then be able to use this in my home country. I learnt about the Master's World Heritage Studies course at the BTU Cottbus-Sonnenberg from the DAAD and this appealed to me immediately. It was the perfect subject for me.« Years full of hard work lay ahead of her until she received her grant from the Baden-Wuerttemberg association »Initiative Eine Welt Köngen e.V.«, which brought her to the BTU.

Her choice of courses focuses on »green« modules and she learns more about the link between culture and nature. A highlight during her studies so far was an eight-week internship in the Messel mine – a disused oil shale strip mine with fossils of exceptional quality in Hesse. »In the Messel mine I learnt a lot about the cooperation with UNESCO and returned to the university feeling really motivated,« enthuses the student.

Her bright eyes are full of gratitude when she speaks of her family and many sponsors, organisations and voluntary helpers who have supported her along the way. »I don't know many people in Nicaragua who get such an opportunity and I really appreciate it. When I go back I want to campaign for more equality. It will be a big challenge to raise awareness about the value of nature and cultural heritage. Here I learnt that other countries have similar difficulties and I benefit from the lively exchange of experiences. After my studies I hope that this knowledge will help me find compromises for the problems in my home country.«



Student María Teresa Cruz has felt a close association with Germany for a long time. A book about Brandenburg and an international course at the BTU brought her to Cottbus



< A K M Shahidul Islam in Paris, where he works for the Permanent Delegations to UNESCO

»MY FATHER ALWAYS ADVISED ME THAT I SHOULD PREPARE MYSELF«

BTU-Alumnus A K M Shahidul Islam from Bangladesh is a former Heritage Conservation and Site Management (M.A.) student who successfully graduated from BTU in October 2016.

Like many other Bangladeshis, Shahidul was born into a farmer's family that lived in very modest circumstances in a simple rural village. Instead of telling his child to work in the fields with him, Shahidul's father encouraged him to prepare for school and even go to university. Years later, Shahidul finds himself working for the Permanent Delegations to UNESCO.

BTU NEWS: You studied Heritage Conservation and Site Management (HCSM), a research-oriented joint master's program at BTU. What was the speciality of these studies?

→ **SHAHIDUL ISLAM:** The speciality of the HCSM program is the partnership between BTU Cottbus-Senftenberg and Helwan University in Cairo, Egypt which gives students a unique learning opportunity from two different countries. The program does not only offer theoretical learning, it also offers learning from these two countries cultural heritage experts, heritage sites and its related cultural heritage institutions. I strongly endorse HCSM program to all people who like cultural heritage conservation and management.

BTU NEWS: What is your current job?

→ **SHAHIDUL ISLAM:** Since September 2016, I have been working as a »Probationary Research and Liaison Officer« at Permanent Delegations of Bangladesh to UNESCO in Paris, France. What makes me happy about this job is that, in my everyday work I do research on different sustainable development goals in particular education and culture sectors which gives me the opportunity to learn and contribute to the development of my country. Moreover, I also get the opportunity to attend in different high level international events which allow me to learn and meet with experts in different fields from around the world. In a word my current job is giving me lifelong learning opportunities through research and meeting people which I like most.

BTU NEWS: How did your studies at BTU Cottbus-Senftenberg influence your career?

→ **SHAHIDUL ISLAM:** Referring to this question, I would like to recall the refusal of my German study visa in 2014 by the Embassy of the Federal Republic of Germany in Dhaka which mentioned that the study program would not fit into my future career. I would like to convey my profound thanks to my German friends Dr. Andreas Meissner, Christian Kemperdick, and his wife Hildegard Allemann whose extraordinary support helped me to obtain a German study visa to do my master's degree at BTU Cottbus-Senftenberg in Germany. My current job is the direct result of the study program, which has improved the value of my understanding of heritage conservation and site management and furthermore, enhanced my knowledge in tangible and intangible cultural heritage presentation and interpretation, as well as increased the understanding of sustainable development through balancing heritage preservation and economic development. Moreover, BTU provided a strong foundation for my career through excellent teaching, guidance and training during my entire study period.

BTU NEWS: What is your strongest memory from your time as a student at BTU Cottbus-Senftenberg?

→ **SHAHIDUL ISLAM:** My entire study period at BTU Cottbus-Senftenberg is full of great memories. It was a great opportunity to interact with students from different countries through group work, the BTU buddy program, as well as field trips and cultural programs. My strongest memory is falling in love with the library, which I fell for from the first day when I entered the library. The so-called Information, Communication and Media Center was the place where I used to find peace in my mind and prepared all of my academic work. I thoroughly enjoyed my study time in the library and now, I miss it a lot.

Thanks for the interview!



Students at the summer school on the grounds of a former wood factory (photo: Building materials recycling) >



SUMMER SCHOOL IN SIBERIA

Twenty-seven Russian and German students are working on sustainable concepts for industrial wasteland

Linda Bünning and Bernhard Seitz, two Civil Engineering students in the sixth semester, first heard about the summer school in Siberia when their lecturer, Prof. Dr. Angelika Mettke, mentioned it in the »Building materials recycling« lecture. Prof. Dr. Mettke was talking about the experiences of the past two years as the summer school will be held for the third time this year focusing on »Sustainable land use through the conversion of waste that has accumulated over the years.« The challenge hereby being to make industrial wasteland reusable again using the example of a wood processing plant.

Linda Bünning was convinced by this. She had heard about Siberia and also thought it could be an interesting place to live for a few days. It was a similar case with Bernhard Seitz and, on 25 June 2017, the students flew to Krasnoyarsk. The seminar, in which 27 civil engineering and architecture and environment and industrial engineering students took part, started on 27 June. With the exception of the two BTU students, all the others came from the Siberian Federal University (SFU) Krasnoyarsk, Russia.

»After our ten-hour flight we were glad that Maria Filonenko gave us such a warm welcome at the airport and brought us to our accommodation in the student halls of residence where we then had the rest of the day to settle in«, recalls Linda Bünning. The students got their first impression of Siberia from the plane – below them the Taiga forest stretched as far as the eye could see and then suddenly, in the midst of this, a city with several million inhabitants! They got to see and know more about this impressive landscape later in two excursions that had been organised especially for the German students. At the weekend, for example, they took the train to the small village of Divnogorsk which means »beautiful mountains« where they then took a boat back to Krasnoyarsk on the great Yenisei river. »We were really impressed by this river and the almost unspoilt scenery with many mountains on which mountaineers had put their flags once they had reached the top«, said the student. »But what impressed

me most was the warm hospitality that I had heard about yet was far exceeded in my encounters with the people there.«

However, the first thing on the agenda was the summer school. The students had the task of developing ideas to transform former industrial grounds into an area with sports facilities and housing, including the necessary infrastructure. And there is a real occasion behind this as the Winter Universiade, the World Student Games, will be held in Krasnoyarsk in 2019. »Before we were able to address the content we first had to divide ourselves into teams of five or six«, explains Linda. »As we knew that a coherent concept had to be presented at the end, alongside the seminar thesis and research, we made sure that various competencies were incorporated in the teams and paid attention to this when putting them together. A little challenge was also the fact that three languages were spoken.« The lectures were given in German and Russian and translated into the other language. But when the students spoke to one another, English became important. »A good experience for me was also describing things that are clear in my mind in such a way so that my team colleagues are also able to understand and implement them«, says Linda Bünning.

»Apart from that, I didn't realise the difference it would make to actually see this industrial wasteland here and experience the conditions, such as weather, climate, type of building materials as well as the laws, first hand. Our professors explained the associations on the building sites and, in the end, we all realised quite different solutions in our concepts that also made it quite interesting! I developed a special relationship with my lecturer, Ms. Mettke, in which I asked more questions than I used to and, in doing so, learning more and benefiting accordingly in my performance.«

6th semester Civil Engineering Bachelor's student
LINDA BÜNNING

ON AN ADVENTURE ABROAD WITH THE BTU

Maximilian Reinhold reports on his semester abroad as part of the STUDEXA programme

»China is one of those countries in which great adventures and many new experiences await you«, says Maximilian Reinhold summing up his one-semester stay at the University of Shanghai for Science and Technology (USST) in the 2013/14 winter semester. It was, quite simply, »Amazing!«

The studies and support offered at the host university were excellent. A buddy programme, in which each exchange student pairs up with a Chinese student, ensures great local support. This meant that I was collected at Shanghai Pudong airport by a Chinese student who brought me to the university by taxi and helped with my accommodation in one of the university's hotels. All courses are taught in English. In general, the teaching system is a little more like in school than it is in Germany and this means that lectures and seminar papers are also done as part of the courses.

At the end of my Bachelor's degree at the BTU, I wanted to do my subsequent Master's in Industrial Engineering not only at the university of my home country but also enrich this with experience studying at a university abroad, if possible in China. To make this possible, I first found out more information in advance from the BTU International Relations Office (IRO) and learnt about the »STUDEXA« non-European exchange programme. A university-wide information event of the IRO answered all the important questions on places, the application procedure, selection, financing and more. Reports from students who had already done this completed the information. After that I had about two months to apply for a maximum of four of the many European and non-European exchange places in the following student year. I was really happy with the support I got from the professors, particularly with the letter of recommendation that they provided.

Already in February, I received the good news that I had been pre-selected for a place at the University of Shanghai for Science and Technology and my papers were sent to the partner university for the final assessment. Besides the organisational support, the IRO also offers a workshop to help with preparation for the semester abroad. I also received financial support in the form of a BTU grant from the DAAD PROMOS programme.

The stay abroad was not only a really positive experience from an intercultural and language viewpoint but the interesting study offers and way the various approaches deal with the scientific questions was also

Maximilian Reinhold during his stay in Shanghai >



extremely beneficial for my academic qualification. With the experiences I had at the USST, I now feel that I am ideally prepared for the international employment market after completing my Master's at the BTU. My recommendation: apply for a BTU exchange place – it's well worth it!

Graduate of the Master's Industrial Engineering course

MAXIMILIAN REINHOLD

STUDY EXCHANGE PROGRAMMES AT THE BTU

- More than 100 partner universities of the BTU in EUROPE and WORLDWIDE offer many attractive study-related exchange places:
- The application deadline is from December to January for the following academic year

European exchange programme »ERASMUS«

KARIN ROBEL

Non-European exchange programme »STUDEXA«

MARINA LEWANDROWSKI

STUDYING AND LIVING IN SAINT PETERSBURG

Cornelius Spree has completed the German-Russian dual Master's degree in Materials Processing Technologies at the BTU

In summer 2016 Cornelius Spree was awarded his dual Master's degree from the BTU Cottbus-Senftenberg and the Peter the Great Polytechnic University in Saint Petersburg (SPbPU). As part of the dual Master's Materials Processing Technologies course, he completed the first two semesters at the BTU and a further two in Saint Petersburg. His year in Russia was financially supported by a full-year grant from the German Academic Exchange Service (DAAD). »I would not have wanted to have gone without the time that I was allowed to spend in Saint Petersburg,« says Cornelius Spree in retrospect. »My studies there gave me an insight into everyday student life in Russia, enabled me to get to know the rich diversity of the country, as well as the warmth and genuine nature of its people. This really impressed me. I can only recommend Russia as a host country for any students who are thinking of a stay abroad!« Cornelius had already learnt the language at school and spent a six-month internship in Russia before starting his Master's. He then found out about the dual course at the BTU while looking for a Master's course that included a stay in Russia.

In contrast to the BTU Cottbus-Senftenberg, the study programme in Saint Petersburg is conducted in a course group with all students. This means that all students on the course do the respective subjects and courses together. »There were six students in my group, three of whom were from the BTU and the other three from Saint Petersburg. The examination procedure is also different: in Germany, written examinations are common and oral examinations are more of an exception. However, in Russia, examinations were almost solely a combination of both forms.«

The university's facilities are very good and modern in many areas and there is a wide range of educational and recreational opportunities available outside the curriculum. »Anyone who is in Saint Petersburg must gain an impression of the overwhelming cultural wealth the city offers, whereby the Hermitage and Peterhof Palace are really only the tip of the iceberg when it comes to the sights. I would also recommend looking at the metro station between the Avtovo and Ploschadt Vostanija stations – a real highlight!« enthuses the young Cottbus student. »I spent a great deal of time with the other students not only at the university but we also did a lot together in our free time.«

With regard to the financing of his stay abroad, Cornelius Spree explains: »Living costs as a student are, in my opinion, considerably less in Saint Pe-

tersburg than in Germany. I only had to pay 50 euros a month for the student halls of residence.« The food costs are similar to those in Germany whereby you can save quite a bit by going to the student canteens, which are scattered around the city. Public transport is also inexpensive at just 14 euro for a monthly ticket. »To sum up, from a financial viewpoint, there are many opportunities for a very varied daily and recreational life.« Furthermore, the university cooperation between the BTU and the SPbPU also means that there are no study fees for students on the dual Master's study programme.

Cornelius spent the first two semesters of the dual Master's course with students from Saint Petersburg who were spending a few months studying at the BTU. »After this, I completed a further two semesters in Russia and wrote my Master's thesis on the »Investigation of the formation of microstructures of aluminium alloys in friction stir welding« in Russian«, he explains. Today, Cornelius Spree has a job at a company in Germany where he continues to work with Russian-speaking countries.

Dual Master's graduate
Materials Processing Technologies
CORNELIUS SPREE

Cornelius Spree and Svetlana Ginzburg, a Russian student who also successfully completed her Master's in Saint Petersburg (Photo: Cornelius Spree) >



CAMPUS & UNIVERSITY LIFE

THE BTU AND ITS ALUMNI

With its alumni strategy, the BTU is focussing on mutual knowledge transfer

»We are your central contact partner for all alumni matters – regardless of whether you want to come to the next alumni meeting or are interested in lifelong learning, we can help«, reads the alumni website on the BTU homepage. Daniel Ebert, who is responsible for the national alumni work and Dr. Veronika Körösi responsible for the international alumni work, discuss the figures behind this and the university's strategy, measures and goals.

BTU NEWS: Who are the alumni and what offers are there for this group?

→ **DANIEL EBERT:** We understand the term very broadly and count all former students, employees and researchers of the BTU Cottbus-Senftenberg and its predecessor institutions as alumni. To keep updated with the latest news, all alumni can subscribe to our newsletter on the website, which covers topics such as start-ups at the BTU and current events. Every month we also present different alumni careers while regular symposiums, events and alumni meetings offer the ideal opportunity for dialogue – all former students and employees are welcome! Lifelong learning is also something that is very important to us and, with interesting offers from starting out in your career to a senior citizen university, we invite alumni of all ages to remain part of the BTU family. Another project which is very important to me is start-up mentoring for which we look for alumni with start-up experience who can support the current start-up teams as mentors. The mentoring starts in 2017 and can take place on-site, by telephone or Skype.

→ **DR. KÖRÖSI:** There are numerous additional offers for all international or internationally active former students or staff members: regular international alumni meetings have been held at the BTU since 2006, for example, the international symposiums of the civil and public law department with special focus on environmental and European law headed by Prof. Dr. Eike Albrecht and financed by the DAAD or the conferences of the International Association of World Heritage Professionals of the World Heritage Studies Master's course.

BTU NEWS: What differentiates the international alumni work from the national work?

→ **DR. KÖRÖSI:** In 2011 the International Relations Office invited select alumni to the BTU and coached them to form regional groups at their respective sites. Since then, the main goal has been to support our voluntarily active alumni in the realisation of their concepts through advisory and technical support and follow-up visits. This model of measures aims to secure sustainability and also ensure networking with local German institutions (GIZ, DAAD, Goethe Institutes, AHKs or other alumni). International alumni often have to travel to events at the BTU from abroad, which involves more time and expense for them than for the national alumni. We would therefore like to increase the use of the digital channels in the future for the academic-related networking of the BTU alumni worldwide and incorporate these more into the internationalisation of BTU research.

BTU NEWS: Which goals is the BTU pursuing with its alumni strategy?

→ **DANIEL EBERT:** Our goal is to create offers that connect our former students and employees with the BTU. Our work therefore focuses on the knowledge exchange between the alumni, students and lecturers. Former students can, for example, give current students an insight into possible professional fields, which can ease their entry into that career. Their experiences also help us improve teaching and research at the university. Knowledge transfer occurs via the minds and we offer opportunities to enable the minds to meet one another and make contacts.

→ **DR. KÖRÖSI:** From the first to the last contact of their studies and beyond, we want to help form and deepen students' academic and emotional ties to the BTU as only satisfied and well-educated alumni will want to maintain contact with us and further recommend the BTU.

Thank you for the interview.

Alumni advisor

DANIEL EBERT

International Relations Office

DR. VERONIKA KÖRÖSI

www.b-tu.de/universitaet/alumni



Alumnus Andreas Brandt talking to Dr. Veronika Körösi and Daniel Ebert (l.-r.) about his start-up »CADS AND DOCS« in which he is developing a digital platform that will in the future offer templates for architectural drawings and models

SOROPTIMIST INTERNATIONAL CLUB COTTBUS AWARD

Prizewinner Anisha Patel is committed to international understanding and dialogue. She was the general secretary of the university-wide student association at the Dr. Bhanuben Nanavati College of Architecture and a committee member of the 51st Conference of the National Association of Students of Architecture. Patel is currently a member of the Indian National Trust for Arts and Heritage and has been chosen to take part in a study project for the realisation of the UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage. Since August 2016 Patel has been the chairwoman of the Student Council of the World Heritage Studies course.

BTU NEWS: What do you like most about Germany?

→ **ANISHA PATEL:** It's nice that Cottbus is so small because you know everybody. I love that education is affordable in Germany, it's even cheaper than in India. Things are very international, people are used to foreigners who don't speak German or English, there aren't any problems. I don't see that many cultural differences, I'm more focused on the similarities. There is this big sense of solidarity and team spirit on campus, there even are people who go with you to doctors' appointments.

BTU NEWS: Why did you choose the BTU?

→ **ANISHA PATEL:** I found out about the World Heritage Studies on the UNESCO website. I chose the BTU because of the comprehensive study contents. I like that it's a small university so it feels more personal and the lecturers and professors have more time for their students.

BTU NEWS: Is there anything you didn't like about Cottbus and BTU?

→ **ANISHA PATEL:** I think the climate in Cottbus is great but I would have liked air conditioning on campus in the summer. It took a while for me to get my student ID and the semester ticket. That's why I had to wait before I could open a bank account and get insurance.

BTU NEWS: How is Cottbus different from your home town?

→ **ANISHA PATEL:** Pune is about as big as Berlin. The pace in Cottbus is more relaxed and calm. Germans are very honest, they tell you to your face what they think and that this makes it easier at university because if you get constructive criticism you can work on your flaws more efficiently.

BTU NEWS: Why do you work for the Indian National Trust for Art & Cultural Heritage?

→ **ANISHA PATEL:** I went to an all girls institution. In my undergraduate Architecture class we designed products like souvenirs from Pune. This was how I found out more about my home town and I wanted to preserve its heritage. Thanks to the Soroptimist Prize, I am able to return to India and spend a month in Delhi researching.



Prizewinner Anisha Patel

BTU NEWS: What was your best moment in life so far?

→ **ANISHA PATEL:** I've always had good mentors throughout my life in school and at the BTU. I knew I could always count on them and they were always there at the right time. The other day I got to go to Zagreb and learnt about Balkan history. I'm also grateful for my Indian background.

BTU NEWS: Where do you see yourself in 5 years?

→ **ANISHA PATEL:** Doing something similar to what I do now, working in the field of heritage studies somewhere in India. We have such a rich culture but there is so little being done at the moment to preserve it.

BTU NEWS: If you had one wish, what would it be?

→ **ANISHA PATEL:** I would love to learn languages easily.

BTU NEWS: Where is your favourite place in the world?

→ **ANISHA PATEL:** I would have to say my home town of Pune and Cottbus. The way people are here and what they have done for me – I've spent a life-changing 18 months in Cottbus and my world view has changed. I am going to miss the people and our intercultural life here. My roommates, for example, asked me about Hindu festivals. My research brought me closer to my own religion and we celebrated certain festivals together with delicious international foods. I'm also going to miss German food like Spätzle, Kaiserschmarrn and Geschnetzeltes.

Thanks for the interview!



^ Kathrin Bott (left) with an Egyptian PhD student

THE BTU WELCOME CENTRE

A very special offer for international scientists and hosting institutes

A key area of the BTU's internationalisation lies in the field of research. The Welcome Centre in the International Relations Office opened recently, lending its support to this. Kathrin Bott is the face of this Welcome Centre, which aims to create a suitable infrastructure for international guests and their families to help them familiarise themselves with life in Germany quicker, feel more at ease and allow them to focus on their research. As the interface between the university's internal institutions and non-university facilities, the Welcome Centre views itself as the central advisory and service point for international scientists, postdoctoral researchers, PhD students as well as newly appointed professors who come to the BTU for three months or more.

The support and advice given is for all non-academic and practical questions concerning the work at the BTU and life in Cottbus and Senftenberg. The systematic and individual support begins with the initial contact and remains throughout the stay at the university – a concept that also aims to support the international researchers' emotional ties to the BTU. One of the first milestones of the Welcome Centre is the establishment of a procedure that enables the granting of residence permits for international researchers for the purpose of research according to Section 20 Residence Act.

Equally, the Welcome Centre is also available as a central contact point for all hosting institutes for which special checklists, information materials and leaflets are conceived. This also brings a system to the support that helps ease the workload of the individual departments. As a strategic goal, pooling synergies increases the quality of the support and it is hoped that this will lead to an increase in the number of international scientists at the BTU.

The Welcome Centre already works with several institutes, the research department, the Graduate Research School and the family office. To receive the best possible support, international guests can even register at the Welcome Centre from abroad. Speaking about this, Prof. Uwe Meinberg says: »If you want to get a staff member – in my case from Egypt – to come to a department for a longer period of time (husband and children included), good advice does not have to be expensive: my department, the new employee and her family received excellent support from Ms Bott at the new Welcome Centre. This is a real »welcome!«

A virtual Welcome Centre is also available in German and English on the BTU homepage. Alongside important information, it also offers useful links that ensure a smooth arrival for settling into life here. In addition, various events that aid social integration are also offered for guests and their families, which enable intercultural exchange amongst one another, for example in the International Meeting Centre (IBZ), and this helps uphold an active welcome culture. This is complemented by an active farewell culture whereby international scientists who leave the BTU become members of the university's alumni network.

FOR INTERNATIONAL SCIENTISTS

- Before their arrival
Information on visas, help finding accommodation, childcare and schools
- After arrival
Individual Welcome Package, support with registration and gaining a residence permit, help in opening a bank account and taking out insurance, information on language courses, taxes, family service and more
- During the stay
Individual advice on questions relating to everyday life (religion, free time and more), service point info., funding info., networking and social integration events
- Before leaving
Support in all formal matters, such as ending a rental agreement, deregistration etc., Goodbye Package and alumni network

FOR HOSTING INSTITUTES

Registration and information at the Welcome Centre, information on visa procedure, templates for invitation letters, if applicable application completion for hosting agreement according to Section 20 Residence Act (EU researcher visa), individually adapted checklists, initial information on possible funding programmes, IBZ registration

Manager BTU Welcome Centre
KATHRIN BOTT

www.b-tu.de/welcome-centre

»THINKING OUTSIDE THE BOX MAKES YOU MORE OPEN-MINDED«

Visiting researcher Alminda Fernandez came to BTU for six months and is very grateful for this informative and inspiring experience

One Sunday in October 2016, Alminda Fernandez left her home in the Philippines and flew to Germany where she would participate in a six-month long research stay at BTU Cottbus-Senftenberg. Even before she arrived in Cottbus, she felt very welcomed and part of the BTU family thanks to the information provided to her by the Welcome Centre. This feeling grew even stronger when, to her surprise, she was greeted at the airport by a student assistant who accompanied her back to her apartment in Cottbus. With the support of BTU's Welcome Centre of the International Relations Office, she easily overcame the bureaucratic hurdles she faced in her first month – such as opening a bank account and visiting the various authorities – so that she could concentrate on her research and daily life in Cottbus. Alminda Fernandez noted that »Because of my previous experience and field studies, I have accumulated a wealth of experience and achieved a new level of scientific knowledge. My real specialty is agriculture. At BTU, I was a postdoc in the field of environmental informatics and worked with the ›Soil and Water Assessment Tool (SWAT model) under the supervision of Prof. Dr. Frank Molkenthin. This river basin scale model was developed to quantify the impact of land use within a large complex river basin.« Her exchange was funded by the Erasmus Mundus Programme of the EU (EMMasia), which aims to promote the exchange and mobility of students, researchers and staff between Europe and South East Asia.

Fascinated by the inspiring research environment, effective working methods, and good time management, she enjoyed her time at BTU very much. A very special moment was when her family visited Cottbus. »My husband and my children stayed here for almost two months. The Welcome Centre organised a larger apartment for us during this time. Furthermore, my son and daughter were able to attend classes in Cottbus at the Erich Kästner Primary School as guest students because of the coopera-

tion with BTU. My children learned a lot and had so much fun! In the beginning they were a bit shy, but that quickly changed as soon as they made their first friends.« Whether it was the Black Forest, the Alps or Hamburg, by traveling, Alminda learned a lot about the country and its people. While her children stood with wondering eyes in front of the Ferris wheel at the Christmas market and played enthusiastically in the snow, Alminda's personal highlight was her visit to the Potsdam Institute for Climate Impact Research: »There were the largest computers and the largest microscopes I had ever seen! I was very impressed because Albert Einstein conducted research in this same location.« Kathrin Bott from the Welcome Centre gladly took care of the concerns of the guest researcher from the Far East: »It is the happy faces that I see when I solve problems that remind me how my every day activities have a real purpose. Often a whole world can be changed by a single call or by adjusting a tiny screw.« Throughout her stay, there were also many diverse opportunities for networking and social integration. Alminda Fernandez especially remembers the Christmas party for international researchers at the International Meeting Centre (IBZ), which together with her family, she enjoyed very much. During this celebration, she learned a lot about German culture and was able to get in touch with other researchers.

Many international researchers are accompanied by their spouses. For this purpose, the Welcome Centre offers spousal service in the form of individual consultations, which include information about searching for jobs, language courses and further training. Kathrin Bott says that »Our aim is to support international guests and their families so that they quickly feel at home in Cottbus and Senftenberg. Ultimately, we want to help build an emotional connection between our researchers and university.«

And with Alminda Fernandez, this has definitely been achieved! She had a great time at BTU and is very happy to have experienced a new culture, and gained new perspectives. She ends by saying that »This sort of opportunity makes you more open minded. If you don't step outside of the box and experience new things, you might think your country is the best.« As she returns home, Alminda is filled with enthusiasm and takes back with her many new ideas.

Manager BTU Welcome Centre
KATHRIN BOTT

www.b-tu.de/welcome-centre



Alminda Fernandez participate in a six-month long research stay at BTU Cottbus-Senftenberg



»THE BTU HAS GIVEN ME A LITTLE BIT OF UNIVERSITY LIFE BACK«

Fleeing war and terror, Nadeem Manjouneh came to Cottbus and is now a student at the BTU

Nadeem Manjouneh wants to become an architect and for this reason started to study in his home country in 2011. Everything went according to plan but then his whole life changed. Only a year after he had started his studies, war broke out. His home is Aleppo, in Syria, where an atrocious civil war is still taking place. The situation there eventually got too dangerous for the young Syrian and his family and they decided to flee – for hope, for a peaceful life. »I planned everything, looked at maps and packed my laptop as well as all the important documents from my university and school time so that it was all waterproof – for the journey from Turkey to Greece. There were 60 of us in this small boat. It was the middle of the night and we were afraid. I think that this was the turning point in my life. From that point onwards, I thought that things had to get better«, he says about the exhausting escape. In fluent German he recounts the many kilometres they covered – many of them on foot. Some even with his injured mother on his back. His little brother next to him. His father was unable to come with the family as he was in prison and so he came later.

Nadeem is 23 years old and has now been living in Germany for more than two years. He has been an official student of the BTU since the 2016/17 winter semester. He proudly shows his ID card. »I didn't have a good start to my studies in my home country and university life wasn't really very nice either. Here in Cottbus, at the BTU, I can get a little of this back and this makes me really happy«, he says. After the preparations for his professional studies and successful completion of the course with the DSH German language examination for university entrance, the young Syrian is now able to continue his architectural studies. The BTU has acquired funding from the DAAD INTEGRA programme to offer this option especially to refugees. Nadeem has his sights clearly set on his goal, is working hard to achieve this and has exceptional language skills: besides his first language, Arabic, he also speaks English, Turkish, French, Japanese – and now German.

It wasn't that long ago that Nadeem was voluntarily working for the United Nations refugee relief organisation and UNICEF in his home country as a refugee helper for Iraqis. »Suddenly, I was a refugee myself. On our way here, my family and I met many helpful people but we also had a few bad experiences. When we arrived in Peitz, my new neighbour took me crying in her arms and said, ›I know exactly what you are going through.‹ « She, too, had come to Germany as a refugee many years ago. Nadeem is now well-inte-

grated, plays sport here, meets friends and feels at home in Cottbus. He would like to be able to pass on this good feeling and help other refugees. He knows their situations and problems only too well. »I am once again working voluntarily as a translator and refugee helper and am happy to help – regardless of whether with visits to the authorities, help with the translation of papers or mediating between partners in disputes.« Nadeem Manjouneh has arrived and has found a new home in Lusatia.



^ Nadeem Manjouneh continues his architectural studies, which he started in Syria, at the BTU

PAINTING IN BRANITZER PARK

Chinese guest student Qin Wan dedicates a large part of her time to oil painting and has recently exhibited her works at the IKMZ – her first exhibition abroad

Qin Wan smiles and looks proudly at the oil paintings in her exhibition »The Footprints of Youth«. Twenty-four paintings from Cottbus and the surrounding area as well as the Netherlands were on display for a month in the university library in the Information, Communication and Media Centre (IKMZ) – the same imposing building that had impressed the Chinese guest student so much at the beginning. Fascinated by its shape and design, Qin researched online to find out more and was amazed to find out that this was a library designed by a famous architectural firm. Now her paintings were on display there. And to make the exhibition even more special, it was also her first one abroad. »I am very grateful that I have been given this opportunity and would like to thank all those involved at the university. I have received a great deal of help whilst I have been at the BTU«, says the World Heritage Student Qin Wan. Even the BTU President Prof. Dr.-Ing. Jörg Steinbach attended the opening of the exhibition.

In China, Qin Wan studies art but at the BTU Cottbus-Senftenberg she is dedicated to topics such as globalisation, architecture and intercultural competence on the World Heritage course. The discussions and lively debates with both the lecturers and among the students here are not something she is familiar with from her home country. »Here you do not just listen and make notes, quite the opposite! The students get really involved and often no one stands up, even when the lecture is over«, says the exchange student. Life here is much quieter than in Beijing and the town has lots of green spaces and clean air. Her favourite place in Cottbus is Branitzer Park where she enjoys the sun, listening to the birds and the view of the beautiful landscape and also gets inspiration for her paintings.

Qin Wan sits in front of her easel and paints at least three times a week – happy scenes, such as beautiful landscapes with sunny, cotton cloud-specked skies are what she likes best. A picture like this is finished within two days. Portraits, on the other hand, are different – the artist can spend one to two months on these. She prefers this genre even though this involves much more work. The talent for this seems to lie in her family as her older sister also does oil painting and is doing her Master's degree at the country's best art school. Her parents are very proud of their talented daughters. One of Qin's paintings even hangs at her home university, the Beijing Institute of Technology: The Guitar-playing Girl. »The best decisions of my life were starting with oil painting and going to the Beijing Institute of Technology – particularly as it offers great opportunities to go ab-



^ The Guitar-playing Girl, which is displayed at the Beijing Institute of Technology (Photo: Qin Wan)

road. Before my semester at the BTU I had already spent three months at the Russian University in Moscow. Being able to study far away from your home country is one of life's truly great experiences«, enthuses Qin Wan.



^ The Information, Communication and Media Centre (IKMZ) as an oil painting

COSMOPOLITAN COTTBUS - COTTBUS OPEN

Every year, the residents of Cottbus look forward to the Sunday of the town's festival when they enjoy the world with all the senses at Puschkinpark

»For me, the Cottbus Open is the nicest day of the year in Cottbus«, says Cinthya Guerrero Amezcua, academic staff member in the department for Power Plant Technology at the BTU Cottbus-Senftenberg. And she should know as she brought her sports course accompanied by Latin American sounds to the festival's stage programme for the first time ten years ago! Since then she has completed her Master's in Environmental and Resource Management (ERM), following it up with a PhD. Since April 2017, she has been working on her second PhD in Power Plant Technology. The connection to the city, in particular to her Cottbus friends, has also become more heartfelt. Cinthya Guerrero teaches flamenco at the university. This led to the formation of the »Arte Flamenco« dance group, which comprises of BTU employees, students and Cottbus residents and has become a regular part of the Cottbus Open and other intercultural festivals involving the university.

Arte Flamenco is one of 15 acts taking part in the colourful stage programme at the Cottbus town festival, which attracts many visitors to Puschkinpark on the Sunday. Seven of the live acts are organised by BTU staff or students. In this way the Cottbus Open is getting bigger and more colourful each year and Arte Flamenco is part of this.

Mohamed Elhag, one of the course coordinators for the international study courses at the BTU, thinks that on this day Cottbus is connected with the whole world and, also the reverse, the world with Cottbus. His personal association with the Cottbus Open started in 2003 when he and nine other students joined the »Cottbus InterNETional« project, which was initiated

by the ERM study course coordinator at that time Katja Jäger as part of a contest of the German Academic Exchange Service (DAAD) with the support of the Cottbus integration representative. The aim was that they wanted to bring everything that works well for integration into studies in the ERM study course – namely eating together, talking with each other, learning and celebrating together – into the town. In doing so, the International Food Mile was born! For Mohamed Elhag and his team of colleagues this firstly meant getting pots and pans together from the restaurants in Cottbus but also conducting interviews with fellow students from all over the world and then using this to fill the information boards.

This concept proved to be successful, so that it was even possible to get the town as sponsor. Today it would not be possible to imagine the town festival without the intercultural festival. Mohamed Elhag has been the coordinator of the Food Mile for three years and says: »I look forward to this every year. As different students participate each year there are always new faces, new countries and new dishes. The people of Cottbus are familiar with the event and enjoy coming and they are always discovering new things and can come into contact with the students.«

And so, the people of Cottbus celebrated together again this year – internationally, colourfully and, above all, peacefully. On the Puschkinpromenade, visitors were able to go on a small trip around the world. The Food Mile and the international stage programme was organised by around 200 international helpers. Delicacies from China, Costa Rica, Guatemala, Greece, France, Hong Kong, India, Indonesia, Iran, Columbia, Mongolia, Nepal, Nigeria, Peru, Russia, Spain, Sri Lanka, South Korea, Japan and Venezuela attracted curious gourmets who were happy to stand in queues where they got talking to one another.

The festival was organised in association with the Brandenburg University of Technology Cottbus-Senftenberg, independent sponsors of the town of Cottbus, migrant organisations and the Jugendhilfe Cottbus e.V. association for young people.

International Relations Office
JANINE WEHRSTEDT



◀ The intercultural highlight for many Cottbus residents: sampling delicacies and celebrating at the Cottbus Open

SEEING IN THE NEW YEAR AT THE BTU BALL

Every January, BTU Cottbus-Senftenberg hosts a university ball which brings together all students and staff as well as friends and sponsors of the university at a festive celebration where everyone has the chance to talk, dance and laugh together outside of normal, everyday university life. In 2017 this was attended by a record 958 guests and was a great start to the New Year, with fireworks, dancing and even a spontaneous marriage proposal.

BTU President Prof. Dr.-Ing. Jörg Steinbach used his opening speech to introduce and welcome Monique Möbius-Zweig as the new managing director of the Frankfurt (Oder) student union. At the same time he welcomed the graduates of the engineering, electronic and energy systems and business, law and society faculties, who met on that day for the de-registration celebrations and ended the evening at the BTU Ball. The photographic skills of the multimedia centre's photography team also proved to be extremely popular this year and more than 400 guests had their personal souvenir photo taken.

Music was provided by »Toni Gutewort and his Dance Orchestra«, who were performing at the ball for the third time. The former student of instrumental and vocal education and his band once again impressed BTU guests with his great music mix and ensured that the dance floor in the canteen was full until the early morning hours.

The engagement of Diana Schäfer and Christian Kasper provided a further highlight of the 2017 BTU Ball.

WE ESTABLISH AND MAINTAIN TRADITIONS

As a new university, BTU Cottbus-Senftenberg is still in the early days of bringing the BTU community closer together and integrating regular events in the academic culture. Although many of these events are just starting up, university members can use them to get to know one another better outside normal, everyday study and work life. Not only are the events fun, they also bring everyone closer together and form the basis for traditions. The first steps have already been taken. Besides such academic occasions as the university and teaching awards and the formal opening of the academic year, there is the BTU Ball, end-of-year concert with the Collegium musicum and the Classic & Clubbing event with the Cottbus State Theatre in April.

The Collegium musicum is an orchestra featuring many BTU music enthusiasts. The orchestra conductor is Krzysztof Switalski, who took up the position in April 2016 as successor to Prof. Dr. Tibor Istvánffy. The Collegium gives at least one public concert per semester and also takes part in the Cottbus Autumn of Music, among other festivals. As an open ensemble, it enriches Cottbus' cultural landscape with the end-of-year concert, for example, which is aimed mainly at the university administration employees but also appeals to students and academics. After a busy year, all BTU members meet up just before the Christmas celebrations for a relaxing afternoon.



Resounding with great live music, the dance floor was already full shortly after the opening



The Collegium musicum at a concert in the Audimax on the central campus

BRONZE IN KARATE AT THE UNIVERSITY CHAMPIONSHIPS

In May, BTU student Sarah Kruber won the Bronze medal in karate at the German University Championships in Halle and, in doing so, qualified for the European Student Championships in Portugal

Sixteen years ago, a karate trainer from Spremberg came to Sarah Kruber's school. »I was completely fascinated by the white outfit and calm yet firm aura,« says Sarah about her first encounter with the graceful sport. A practice session was quickly arranged and the student began to learn karate. She has now been training successfully in the Cottbus University Sports Association since 2006. She is very pleased with the excellent training and support, »I have discovered a great opportunity here in Cottbus to do my sport as professionally as possible alongside my studies. On the one hand, through the university and my association, which provide the venue for the training and, on the other hand, we have the only state achievement centre for kata in karate in Brandenburg at the BTU and maintain a close cooperation with the Reha Vita rehabilitation clinic.«

Similar to last year, Sarah Kruber once again secured the Bronze medal in the kata category at the German University Championships in Halle in May. Kata involves set patterns of movements that simulate a fight and in which speed, strength, balance, concentration and the correct techniques play an important role. »Similar to gymnastics, you have to stand on a mat on your own and try to convince the judging officials of your skills«, explains the student.

Her weekly schedule is full and she practices karate as well as athletics nine to ten times. Low positions, kicks at head level, sudden changes of direction,



^ The proud winner of the bronze medal in the kata category of the German University Championships in Halle (photo: Sarah Kruber)

jumps, various arm techniques – and it all has to be done fast, with strength and precision. In this, a wide range of athletic skills is essential not least with regard to preventing injury. In the end, the extensive training paid off and Sarah Kruber is pleased with her bronze medal as well as the nomination for the European Student Championships in July in Portugal – the first BTU student to achieve this. »So far, 2016 has been my best sporting year even though I had less time for training. To be able to go to Portugal is, for me, the perfect end to the season.«

Sarah has, meanwhile, also successfully completed her Bachelor's degree in Environmental Engineering. Even though she didn't manage to secure a medal at the European Championships in Portugal it was still a great experience for her. »I really liked the whole cooperation amongst everyone. As the contests of the disciplines karate, taekwondo and judo were held in the same place I was also able to get to know the athletes from the other sports. It was also interesting to see where the focal areas of these martial arts lie. It was also great that the athletes of the various disciplines also attended the finals of the other sports and cheered them all on.«



< Fully focused, Sarah Kruber presents her katas – set sequences of techniques which simulate a fight – to the judging officials (photo: Sarah Kruber)

TEN YEARS OF BTU MOTORSPORTS AND FIVE RACING CARS

The first time the engine springs to life – that is the eagerly-anticipated moment the BTU motorsports students are working towards with the construction of their new racing car

The student team can now look back on 10 years of BTU motorsports: the association was founded in July 2007 and today has 150 members. So far the engineering, electrical engineering, industrial engineering, business administration, informatics, and culture and technology students have built five racing cars, entered the Formula Student construction competition five times and secured good mid positions. Ira Hüppe, an industrial engineering student in her third Master's semester and spokesperson for the current team, knows that it's not that easy: »We're really proud that our racing cars managed to stand up to those of the big universities. Some of them start the competition with in-built advantages and big companies as sponsors. We build everything ourselves and know our vehicles inside out. The good cooperation and creativity within the group also always leads to new ideas and solutions.« The current team of 20 has planned to continue work during the summer on the BTU-06 – the sixth racing car of the BTU series which has been designed, built, improved, rejected and rebuilt again by prospective engineers since 2007. Here nothing is »off the peg«; everything is developed especially by the BTU – in keeping with the rules! The solutions for this are discussed in the team and then implemented with precise attention to detail and the help of partners and sponsors.

Naturally what the team members all have in common is a love of motorsports; they are also all ambitious, practical and not afraid to get their hands dirty. This extracurricular activity enables them to learn first-hand about accuracy and working in a team. Dominic Gerahn, team production manager, emphasises: »We need to be able to rely on one another and need people with perseverance who don't immediately »throw in the towel« as soon as something doesn't work. At the same time, we also benefit from and help one another and are learning more about what we are studying in an in-depth yet very practical way.« Here the common goal is that the team qualifies for entry in the Formula Student construction competition and that it wins this! In summer 2018 the students want to take part again in Formula Student, where they could compete against approximately 115 national and international teams in a Formula 1 atmosphere. »We didn't manage it this year because we weren't able to realise the differential gears of the drive train and therefore couldn't keep to the time schedule«, explains Ira Hüppe and continues: »Our parts are so special that we are dependent on the support of metalworkers who manufacture these not only with conventional lathes and milling machines but also particularly with quintuple-axis CNC machining centres«.

The Formula Student engines are revved up anew each year at the end of July. Vehicles must exhibit excellent driving properties with regards to braking quality, acceleration, cross dynamics and handling and, at the same time, be reliable and easy to operate – while their production must be cost-efficient. A jury of experts from the automotive and supplier industries determines the winning team, which has the best all-round package of construction, racing performance, financial planning and selling points. The BTU motorsports team is looking forward to the forthcoming challenges and is ready for them!

»These challenges really vary«, explains Dominic Gerahn. »And getting the team together for the various meetings in the summer is hereby the easiest thing! Now we have a problem with new students, as eight team members have graduated and left BTU. For special parts production we are also dependent on support and seek sponsors for materials, fasteners and special materials. So we are glad to have the reliable partners that are already in place at the university and in the local region«, continues Gerahn. In the Formula Student, teams have to try and get as many points as possible in various categories. These include the static disciplines, i.e. construction and engineering performance, as well as cost analysis. Furthermore students also have to present their financial concept, demonstrate the performance of the racing car in a timed trial, in acceleration and on various rounds of the track. A maximum total of 1,000 points is possible. Fuel consumption is also considered in the vehicle's economic evaluation.

BTU Motorsport
IRA HÜPPE
DOMINIC GERAHN



Motorsport-loving students with their racing cars ➤

ECONOMY & KNOWLEDGE TRANSFER

WHERE FUTURE EMPLOYEES MEET EMPLOYERS

The campus-x-change recruitment exhibition brought 85 companies together with young, skilled employees from the region

Students, graduates and many other interested individuals met on 17 May 2017 for the 16th »campus-X-change« recruitment exhibition for academic skilled employees of the state of Brandenburg. This year, for the first time, the fair was held on the BTU central campus in Cottbus and in association with the Energieregion Lausitz-Spreewald GmbH.

Eighty-five companies from many different sectors presented themselves over an area of 1,000 square metres. »The organisational team and I are very pleased with the exceptional response to our offer with the companies. There are around 30 exhibiting companies more than last year, which corresponds to an increase of 50 per cent and is a record for us«, said Thomas Elfert, head of the BTU Cottbus-Senftenberg Career Centre. A marquee was even set up in addition to the foyer area of the central lecture building (ZHG) on the forum to provide sufficient space for all the exhibition stands.

The visitors received many offers for their professional career entry as well as trainee and internship places and practice-orientated final papers. At the same time, students were able to learn about work placements and stays abroad and used the opportunity to network with company representatives. They were also able to find out about the various recruitment requirements of the companies and could even apply for positions during the exhibition – all excellent opportunities for their future careers.

A professional photographer was also at the exhibition to take good application photos while a stylist even ensured everyone looked their best on the photos. An application folder check and practice job interview were also on offer. A bus shuttle service was provided for students from Senftenberg and Cottbus-Sachsendorf to get to the exhibition.



A wide range of sectors are represented at the campus-X-change. These include classic engineering offices as well as the implementing companies in building and road construction, electrical engineering, energy industry and processing technologies. The patronage of the job fair was assumed by Dr. Martina Münch, Minister of Science, Research and Culture and the mayor of Cottbus Holger Kelch. The proven concept, »By students for students« was again realised – the campus-X-change was organised by a new student team comprising of Désirée Dobsch, Elaine Peuthert, Alexander Schwanitz and Michael Wernitz led by Robert Rühlemann.

Head of the Career Centre
THOMAS ELFERT

www.b-tu.de/jobmesse

◀ Talks between company representatives and students were at the centre of the exhibition

»WE SUPPORT YOUNG SCIENTISTS IN THEIR CAREER PLANNING«

BTU Vice President Prof. Dr. Christiane Hipp discusses the graduate school's offers, individual funding possibilities and the university's Young Researchers' Days

BTU NEWS: The BTU Young Researchers' Days were held for the first time in October 2016. What do these events aim to achieve?

→ **PROF. HIPPI:** The Researchers' Days is a new project to support the formation of a network for young scientists. Based on our experiences from the former »International Graduate School«, we used the opportunity to pool current initiatives which promote young researchers, such as the »Brandenburg Research Academy and International Network« (BRAIN) project and the new thematic clusters of the Graduate Research School (GRS), for this event. Our objective here is the promotion of exchange between postdoctoral students in Brandenburg. Moreover we presented the graduate school's new clusters to a broad public. The PhD bursaries advertised in this project are an important contribution to the profiling in the mid and long terms.

BTU NEWS: How would you sum up the success of these events?

→ **PROF. HIPPI:** The participants themselves said that they would like to continue the event series. We, too, learned more about their ideas and needs through this direct exchange. An exchange of views among the faculties, departments and our sites is also very important for young scientists.

BTU NEWS: What initiatives are there at the BTU Cottbus-Senftenberg for the promotion of young scientists?

→ **PROF. HIPPI:** Existing initiatives for the promotion of young scientists are reflected in the many different qualifying offerings of the graduate school. Young scientists have the opportunity to acquire multi- and cross-disciplinary skills, such as presentation techniques, intercultural and interdisciplinary skills in communication and fundamental methods and framework requirements for their research applications. In conjunction with our six colleagues from the German Research Foundation (DFG), the research department supports young scientists in formulating their own ideas. We offer specific promotion measures for PhD and postdoctoral students, such as grants and initial funding, the awarding of teaching and research assistance and mobility grants for short periods of research, as well as opportunities to participate in symposiums. Young scientists who are still in the first qualification phase are also supported with structured doctoral studies funding. Furthermore the international PhD study programmes »Heritage Studies«, »Dependable Systems« and »Environmental and Resource Management« and the DFG post graduate programme »Cultural and Technological Significance of Historic Buildings« offer students the chance to acquire interdisciplinary skills which go beyond the scope of their own research work. Our objective is to support the PhD and postdoctoral students in their long-term career planning. Individual advisory and qualification opportunities aim to present a scientific career path which can be reliably planned or support the decision for an alternative outside the world of science.

Prof. Christiane Hipp and her team create funding opportunities focusing on young scientists



BTU NEWS: How can young scientists use the benefits of the graduate school in practice?

→ **PROF. HIPPI:** In funding the graduate school works on the basis of announcements, which means that there are regular announcements on the website and in the newsletter about all types of funding, whether this involves a mobility grant, postdoctoral funding or an application for a cluster. In parallel we also send out, via the dean's offices, calls for applications for postdoctoral funding or clusters. This "three-pillar model" ensures that all young scientists at BTU are able to benefit from the funding offers in one form or another.

BTU NEWS: Three scientists were funded as part of the BRAIN programme. What conclusion would you draw from this after the completion?

→ **PROF. HIPPI:** BRAIN is a programme financed by the Ministry of Science, Research and Cultural Affairs of the state of Brandenburg to support postdoctoral students and is co-financed by the European research programme. A special characteristic of BRAIN in comparison with similar programmes is its openness with regard to the research subject: the 10 fellows from all over Brandenburg come from different scientific fields. In joint coaching on cross-disciplinary topics the fellows were able to share and discuss their experiences and ideas. Both Researchers' Days marked the end of the funding under this programme. The success of BRAIN shows that the interdisciplinary cooperation is a worthwhile challenge, especially for young scientists – whether for personal exchange, understanding other scientific fields and their methods or for developing new project ideas together.

BTU NEWS: Are further BTU Young Researchers' Days being planned?

→ **PROF. HIPPI:** The new form of the Researchers' Days will be held annually just before the start of the winter semester. We start the planning for this at the beginning of each year.

Thank you for talking to us.

Vice President of Research
PROF. DR. CHRISTIANE HIPPI

NEWS

BTU INTENSIFIES PARTNERSHIPS WITH CHINA

The intensifying of cooperative relations between BTU and universities in China was the purpose of a visit by BTU President Prof. Dr.-Ing Jörg Steinbach, the Head of International Relations Office Mareike Kunze and Prof. Dr. Katrin Scheibner in March 2017. One of the first stops was Tongji University, with which BTU already has a long relationship. Besides a cooperation in the field of »Heritage Management«, a collaboration in »Urban Design« and »Urban Management« is also planned for the future. There was also an exchange with the university's clinical microbiologists. Together with Chinese partners from German e-Cars, the delegation went to Anhui University, whose size considerably impressed the guests from Cottbus. Here they met the dedicated postdoctoral researcher Dr. Zhang. The electrical engineer is a specialist in control engineering and is working on a Smart Grid which she configured herself. The subsequent meeting with the university's vice president expressed a great interest in a cooperation with BTU and in a rapid deepening of relations in the field of energy distribution and e-mobility.

The Chinese partners of German e-Cars were also very pleased with the outcome of the visit. Hangzhou is one hour south-west of Shanghai by the high-speed train. The local Zhejiang University is one of the oldest and largest in China. Here the delegation discussed cooperation possibilities with BTU on the basis of Prof. Steinbach's personal relations with members of this university. This meeting expressed the need amongst the uni-

versities for talks on »World Heritage« and »Urban Management and Design«. The university's World Heritage Center is willing to participate as an international partner in our research training group and in July paid a return visit to Cottbus for this purpose. In the study area »Urban Management and Design« the partners are striving for a three-way relationship with the Konfuzius-Institut in Hannover. Culture and technology, as well as the business sciences, are therefore now a gateway to the field of China studies. Finally, the university of applied sciences institution of Zhejiang University expressed interest in cooperating with the engineering and electrical engineering departments in Senftenberg. The final stop on the tour was the Beijing Institute of Technology (BIT), with which BTU has worked since 1994. During this year's visit, this cooperation was transferred to BTU Cottbus-Senftenberg with a new contract and a further agreement for student exchange was signed.



BTU President Prof. Dr.-Ing. Jörg Steinbach with Vice President Song Yonghua (r.) and two students from Zhejiang University.

GRADUATION CELEBRATION OF THE INTERNATIONAL POWER ENGINEERING COURSE

On 5 April 2017, the 19 graduates of the international Power Engineering course celebrated their graduation. The practice-orientated course incorporates traditional and renewable energy technologies in a European context. For many graduates it was also a special farewell celebration as they will soon be returning to their home countries, for example Pakistan, India, China and Bangladesh, where they will use their newly acquired knowledge particularly in the field of renewable energy sources.



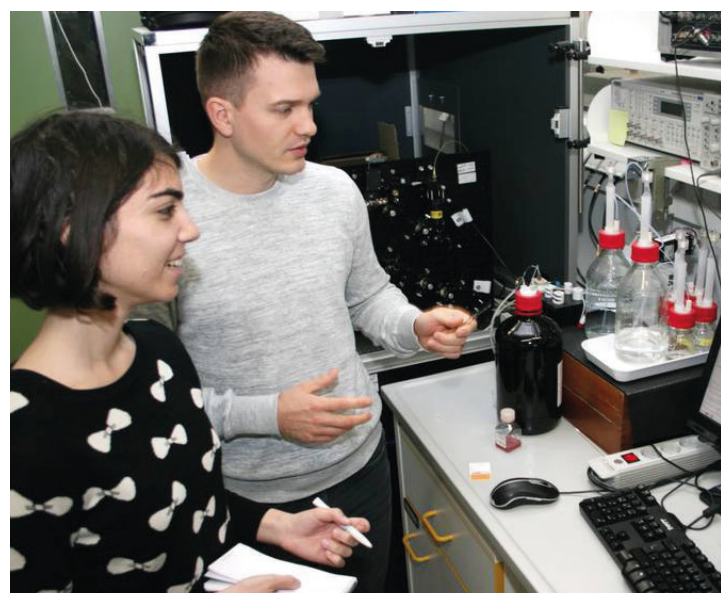
GREEN TALENTS AWARD WINNER VISITS THE BTU-NANOBIO-TECHNOLOGY RESEARCH GROUP

In October 2016, Emily Elhacham from Israel visited Senftenberg as part of the international »Green Talents“ competition hosted by the Federal Ministry of Education and Research (BMBF). At her own request, the Master's student from Tel Aviv University, focusing on research on »Developing and using sensing technologies and systems«, also visited the nanobiotechnology work group headed by Prof. Dr. Vladimir Mirsky. Her special interest here is chemosensors. Emily Elhacham was very impressed, »In my research on this I learnt about Professor Mirsky's work group, which is the leading group in this field in Germany«, she says. »What I learnt here exceeded my expectations considerably.«

Besides subject-related talks, the guest from Israel was also able to learn about the nanodetector analysis device during a laboratory visit. This was developed in an EU research project of the same name under the direction of Prof. Mirsky and offers pioneering possibilities in sensor technology.

The Federal Ministry of Education and Research (BMBF) is hosting the international »Green Talents - The International Forum for High Potentials in Sustainable Development« for the eighth time this year. The competi-

tion is aimed at young scientists in the field of sustainability research and is under the patronage of the Federal Minister of Education and Research, Prof. Dr. Johanna Wanka.



Emily Elhacham from Israel during her laboratory visit with PhD student Vitali Scherbahn

HONORARY LAW DOCTORATE

Awarding an honorary doctorate is a celebratory occasion and this was also the case on a November day in 2016 when Prof. Dr. Marek Bojarski of Wrocław University was honoured. Accompanied by the music of the academic staff members of the Institute of Vocal and Instrumental Education of the BTU, Krzysztof Świtalski (violin) as well as Veronika Glemser (piano) and Bernhard Dolch (guitar), BTU President Prof. Dr.-Ing. Jörg Steinbach presented the honorary doctorate to Professor Bojarski. He received this special honour for his commitment to a joint research centre of the BTU and Breslau University. »Professor Bojarski played a significant role in research projects that compared administrative and environmental law. The founding of the joint scientific research centre of the BTU and Wrocław University, the German-Polish Centre for Public Law and Environmental Network are all thanks to him. I am pleased to be able to present the honorary doctorate to Marek Bojarski and, in doing so, express acknowledgement for his many years' significant work«, said Professor Steinbach. From 2008 to 2009 Professor Bojarski was guest professor at the BTU Cottbus and has been member of the advisory committee of the centre for law and administrative sciences since 2013. He played an important role in the development of the cooperation in the field of law between the BTU Cottbus-Senftenberg and Wrocław University. The eminent lawyer and internationally recognised academic completed his law studies at Wrocław University with a PhD His habilitation in criminal law



Prof. Marek Bojarski (r.) with his wife next to Prof. Jörg Steinbach at the presentation of the honorary doctorate.

was the start of a successful academic career which is distinguished by more than 250 publications. His activities focus on the promotion of the academic cooperation on a local and international level, which has also brought him numerous awards, including honorary doctorates from four universities – for example, besides the BTU, also Tomsk State University (Russia) and the honorary professorship of three further universities, including San Martin de Porres in Lima.

HONORARY DOCTORATE FOR PROF. DR. ANDREY IVANOVICH RUDSKOY

In November 2017 Andrey Ivanovich Rudskoy was awarded an honorary doctorate from the BTU Cottbus-Senftenberg for his work in materials science and the development of the cooperation between the St. Petersburg Polytechnic University and the BTU. Rudskoy, born in Tsabelevka (USSR Kazakhstan), has been the vice chancellor of the Peter the Great Saint Petersburg Polytechnic University since 2011. He graduated from the Polytechnic Institute Leningrad in 1981 and from the Russian Government Academy of National Economics in 1993. In 1998 he was awarded his Doctor of Science and, in 2008, he became a corresponding member and, in 2016, a



member of the Russian Academy of Sciences. Andrey Rudskoy advises the Russian government in a number of committees in modernisation and innovation matters as well as the promotion of young scientists. In the field of materials science, Professor Andrey Ivanovich Rudskoy is an internationally recognised scientist and his work makes a considerable contribution to the development of theoretical foundations and highly efficient technologies for the manufacture of high-performance materials with customised physicochemical properties. This also includes the theory and modelling of metals, powder and composite materials, materials for additive technologies as well as the theoretical foundations of ultrafine structures through intensive plastic deformation and thermomechanical treatment. Under his management, technologies and facilities are developed for the manufacture of nanopowders and ceramic materials, including those which use the gas phase synthesis process under atmospheric pressure, and are applied in Russian industry. His research results form the basis of numerous research programmes at universities in Russia, Poland and China. He is the author of 278 scientific works, including 15 monographs and 8 copyright certifications and patents. With his outstanding academic achievements as basis, Prof. Rudskoy has acquired considerable merit – not least in the establishment and development of the international cooperation between the BTU Cottbus-Senftenberg and the St. Petersburg Polytechnic University.

Prof. Andrey Ivanovich Rudskoy next to Prof. Jörg Steinbach

OUR UNIVERSITY TURNS FIVE!

We would like to invite you to our fifth anniversary, on **Monday, 2nd July 2018**. Celebrations will start at **10 a.m. on the main campus in Cottbus**. There will be a varied programme providing interesting insights into our university. We are still in the middle of the arrangements for all this. Please save the date in your calendar and do join us for celebrating our university on 2nd July 2018!

Watch this space for further information
www.b-tu.de



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