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The University of Bayreuth mourns its president, Professor Dr. Rüdiger Bormann, who was killed in a tragic accident on Sunday, the 13th of January 2013. President Bormann was 60 years old.

Rüdiger Bormann was born in Bremen in 1952. He studied at the University of Goettingen and graduated in 1979 with a doctorate in metal physics. He earned his professor qualification at the University of Goettingen after an extended research stay in the Department of Applied Physics at Stanford University, where he researched superconductivity and nanotechnology. In 1989 he was offered a position at the Technical University of Hamburg Harburg, where he led the Institute of Materials Physics and Technology as a professor for metal physics until 2009. Starting in 1989, Bormann served as a department director and (starting in 1996) also served as the institute director for materials technology at the Institute for Materials Research at GKSS Research Center GmbH (today Helmholtz Center Geesthacht, Center for Materials and Coastal Research).

Starting in 2002, Professor Bormann acted as program spokesperson for the key technologies research sector. He was involved mainly with the structural and programmatic development of materials research as part of the Helmholtz Association of German Research Centers. From 2004 until 2010 Bormann was a member of the German Council of Science and Humanities (Wissenschaftsrat), which advises federal and state governments in questions regarding the further development of the content and structure of higher education, academics, and research. From 2006 until 2009 he was the deputy chair of the Scientific Commission and belonged to the Strategy Commission of the Federal and State Excellence Initiative. In July 2008 he was chosen as president of the University of Bayreuth and took office on April 1, 2009. Bormann had been the deputy chairman of Universität Bayern e.V. (Universität Bavaria), the association of Bavarian university presidents, since 2012.

As president of the University of Bayreuth, Professor Bormann emphatically pursued the initiation of strategic alliances with other universities as well as academic and non-academic organizations. He worked on the concept for the TechnologieAllianzOberfranken (TAO), an organization geared toward strengthening technological expertise in Northern Bavaria. The program has since served as a model for networking between universities as well as between universities and colleges of applied sciences.

Professor Bormann’s fact-oriented and deliberately transparent management of the Guttenberg Case ignited a nationwide discussion about good academic practice and academic honesty. In the aftermath of the case, he also initiated reform to doctorate education practices with special attention paid to aspects of quality assurance.

With considerable personal dedication, President Bormann led the University of Bayreuth to renewed success in its participation in the Federal and State Excellence Initiative through the application of the Graduate School of African Studies to the initiative.

The university administration of the University of Bayreuth is deeply affected by the death of its president. “We are very sad for this loss. As a member of our team, a team that has been defined by great mutual trust, he will be greatly missed,” said the chancellor of the University of Bayreuth, Dr. Markus Zanner.


Translation: International Office
**From Bayreuth to Berkeley**

*Prof. Dr. Michael Rape has received the Vilcek Prize 2013 for biomedicine for his outstanding research achievements*

He studied biochemistry at the University of Bayreuth from 1994 to 1999, obtained his PhD in 2002 and has now received the prestigious “Vilcek Prize for Creative Promise in Biomedical Science”: Prof. Dr. Michael Rape, works as professor for molecular biology and cell biology at the University of California in Berkeley. The Vilcek Foundation, which was established in 2000, awards prizes for scientific and artistic achievement to US immigrants who have made outstanding and innovative contributions to science, art and culture.

It was during his studies in Bayreuth that Michael Rape established his first scientific contacts with the US. Supported by scholarships from the German National Academic Foundation (“Studienstiftung des deutschen Volkes”) and the Bavarian Sponsoring Programme for the Gifted (“Bayerische Begabtenförderung”), he spent a year abroad at the University of Delaware, which had signed a partnership agreement with the University of Bayreuth. After returning to Germany he obtained his diploma in biochemistry in Bayreuth. He then began research for his dissertation at the Max Planck Institute for Biochemistry in Martinsried. The dissertation, which was mentored by Genetics Chair Prof. Dr. Christian Lehner at the University of Bayreuth, focussed on ubiquitin: A small protein existing in almost all organisms whose cells have a nucleus. It has steering functions within the cell which are critical to survival. If these functions are compromised, they can contribute to the development of severe illness.

**Successful scientific career in the USA**

In order to pursue his biomedical research interests, the Bayreuth graduate moved to the US once more. This time it was the Medical School of Harvard University, where he deepened his ubiquitin research under the leadership of Dr. Marc Kirschner. Ever since, Prof. Dr. Michael Rape has dedicated his research to this field, which is crucial for understanding numerous diseases. In 2007 he received the prestigious NIH Director’s New Innovator Award of the National Health Institutes in the US for his outstanding research achievements. He successfully concluded a number of projects in California which were sponsored by the Human Frontier Science Program of the German Federal Ministry for Education and Research (BMBF) and the European Molecular Biology Organization (EMBO).

“Wonderful foundations”: Studying biochemistry at the University of Bayreuth

The remarkable scientific creativity being recognized by the Vilcek Prize has characterized Michael Rape since his school days in Rehau, Upper Franconia. Back in the 1980s, his home region was still seriously affected by air pollution caused by sulphur dioxide. Working in his parents’ basement, Michael Rape developed original chemical experiments for testing the effect of sulphur dioxide on plants. Even after his scientific career in the US Prof. Dr. Michael Rape still has fond memories of his studies at the University of Bayreuth: “Studying in Bayreuth has given me a wonderful foundations scientifically as well as personally.”

Original version (in German):

Translation: BIAC
I was born in May 1990, half a year after the fall of the Berlin Wall, exactly the same year during which Germany won the soccer world championship against Argentina, and around ten years before the introduction of the Euro.

I was studying literature and law in France at the time and was looking forward to discovering the German culture. I had learned some German in school and applied in 2010 for a training program in tourist information in Bayreuth. I came for two months during the break between semesters and took my first steps into the German language, culture, and atmosphere.

Then I returned to France... and back to Germany! I decided to complete the third year of my bachelor's program in law in Bayreuth. I was fascinated by the campus: so familiar and so open to the world.

I could benefit from the Erasmus program of the European Union. The university itself also offered a lot of integration possibilities: The Buddy Program (1 German student for 1 international student), different activities and welcome events hosted by the international office, the great help of the international secretary in the Law and Economy Department, and the special courses for international students (German language courses, general introduction to German law for foreign students, etc.). The year I spent at the University of Bayreuth was a very interesting way to understand how Germans study law and to compare it with the French methods for approaching law.

I also found a job during my year in Bayreuth. I worked for a startup which offers a special direct marketing technique: insert marketing. It enables advertisers to insert flyers with discount opportunities in targeted packages of online shops. I was in charge of the development of the French department. I translated some texts and helped open the French market to this startup. My tasks included winning new customers and organising the French ad campaigns.

After having completed my bachelor's degree, I decided to gather more professional experience here and applied for a full-time job in a bigger firm. This company supplies children's products worldwide. I am in charge of the logistics part of the operation for different markets, markets, especially the French one. English is the first working language and German the second one. I also use French a lot of customers.

Even though I had no education in marketing and sales, getting these two jobs was not very complicated because a lot of German companies are searching for French personnel. Working in an international environment has been a great opportunity and valuable experience. I have been able to improve my foreign language skills and meet people from a diverse variety of countries.
In the future, the City of Bayreuth and the University of Bayreuth will be working together more closely in questions concerning the residence status of international guest scholars, students, and their families. On Monday, the 4th of February, Mayor Brigitte Merk-Erbe and the chancellor of the University of Bayreuth, Dr. Markus Zanner, signed an administrative agreement governing important procedures for processes that involve both the university and city administration.

The shared goal is to effectively support the integration of international guests into their new surroundings and into the working environment during their stay in their adopted home and to establish a culture of hospitality. As part of the agreement created by representatives from the city and the university, responsibilities, contact persons, and means of communication are clearly defined in order to meet this goal. Issues such as the processes for applying for and processing a visa or residence permit as well as the free license allowed in decision-making for the implementation of legal requirements will be discussed as part of workshops and work groups. These will contribute to an improved flow of information between both parties and provide a way to develop coordinated guidelines for future implementation.

The presence of immigration office staff at the university is a solid indication of the close collaboration that has been established between the city and university. A staff member from the immigration office of the City of Bayreuth will be spending time at a branch office on the university campus during the registration period for summer semester in order to advise students and scholars.

The administrative agreement takes effect immediately and is valid for two years. In January of 2015, the agreement will be reevaluated based upon the experiences of the past two years and any necessary changes will be made.

Mayor Brigitte Merk-Erbe emphasizes the significance of the agreement: this is an important part of further improving the culture of hospitality for foreign students and scholars in Bayreuth, making their start in Bayreuth as easy as possible. The director of the International Office of the University of Bayreuth, Dr. Arnim Heinemann, emphasizes that the agreement is of central importance in the worldwide competition for the greatest minds and will help to recruit qualified scholars for research and teaching at the University of Bayreuth. These scholars enrich the academic work and living environment on campus as well as in the city.
As 2013 marks the 200th birthday of Richard Wagner, the City and University of Bayreuth are exploring the composer's controversial heritage with a series of concerts, talks and exhibitions.

Richard Wagner was born in Leipzig on 22 May 1813. He first visited Bayreuth in 1870, attracted by its Margravial Opera House (cf. Alumni Newsletter I/2012). While he found it to be unsuited to his concept of music theatre, the city itself appealed to Wagner so much that, in 1872, he and his family moved to Bayreuth. In 1876, the Festival Theatre on the “Green Hill”, which was constructed specifically for performances of Wagner’s works, was inaugurated with the premiere of Der Ring des Nibelungen. Richard Wagner’s works are best known for their dramatic renderings of medieval myths, the striving for a synthesis of the arts (Gesamtkunstwerk) and his use of the leitmotif – a recurring musical theme linked to a certain character or topic.

After Wagner’s death in 1883, the Bayreuth Festival became a regular event, while admirers continued to worship the composer as an icon. The reception of Wagner remains controversial, however, as his works have been associated with anti-Semitism, nationalism and the völkisch ideology of the Nazis. Following a hiatus after World War II, the Bayreuth Festival was resumed in 1951 with new productions of Parsifal and Der Ring des Nibelungen. Apart from these two works, only Tristan und Isolde, Die Meistersänger von Nürnberg, Tannhäuser, Lohengrin and Der Fliegende Holländer are staged during the festival.

In 2013, the Bayreuth Festival will be complemented by a series of events spanning the whole year. In addition, the University of Bayreuth’s multi-year project WagnerWorldWide 2013, which was launched in 2011, will culminate in an international conference.

Source/Further information on Richard Wagner and the reception of his works:
http://www.wagnerstadt.de/en/richard-wagner/

Further information on WagnerWorldWide 2013:
Some selected events of the Wagner Year 2013

Exhibitions:

“Verstummte Stimmen” (Muted Voices), the Bayreuth Festival and the Jews from 1876 to 1945; 22 July 2012 – 31 December 2013, Festspielpark

“WagnerWorldWide 2013”, an exploration of the global reception of Wagner’s works organized by the University of Bayreuth, 24 July – 28 August 2013, Steingraeber Haus

Concerts:

Mahler Chamber Orchestra / David Afkham, Wagner, Brahms, Schumann, 1 May 2013, Stadt­halle

Fazil Say, Piano concert, 30 July 2013, Stadthalle

Sächsische Staatskapelle Dresden / Christian Thielemann, Wagner, Henze, 26 August 2013, Oberfranken­halle

Music Theatre / Opera:

Premiere of Rienzi, tragic opera in five acts, 7 July 2013, Oberfranken­halle

Premiere of Das Liebesverbot, comic opera in two acts, 8 July 2013, Oberfranken­halle

Full programme:
http://www.wagnerstadt.de/programm/

Prestigious Award for Long-standing Achievements in Meteorology

Prof. Dr. Thomas Foken (left) and the President of the American Meteorological Society (AMS), Dr. Louis W. Uccellini
Photo: AMS

Prof. Dr. Thomas Foken, who has headed the department of micrometeorology at the University of Bayreuth since 1997, has been honoured with one of the highest-ranking science awards in micrometeorology: the “AMS Award for Outstanding Achievement in Biometeorology” of the American Meteorological Society (AMS). The scholar from Bayreuth received the award during the annual conference of the AMS in Austin, Texas on 9 January 2013. In its speech, the AMS praised Prof. Foken’s manifold contributions, especially to optimized measuring techniques. These promoted scientific understanding of interactions between the Earth’s atmosphere and biosphere as well as providing new insights into the energy balance on land surfaces.

On the occasion of the award ceremony Prof. Dr. Thomas Foken gave an interview to the American Meteorological Society’s bulletin. In the interview, he described micrometeorology as physics and chemistry of the border layer which forms the lower part of the Earth’s atmosphere and interacts with the “biosphere” and the “ecosphere”. Micrometeorologists study the complex interactions between plants, soils, oceans and the atmosphere while contributing to global models, e.g. on climate change.

For the full interview, please follow the link:
http://www.youtube.com/watch?feature=player_embedded&v=ipBhT0brl1E


Translation: BIAC
Prof. Dr. Susanne Lachenicht is the first German to be elected president of the European Early American Studies Association

Prof. Dr. Lachenicht was elected at the conference of the European Early American Studies Association, which took place in Bayreuth in December 2012. The conference was attended by scholars from various universities and institutions, including Harvard, Yale, Tufts, University of Virginia, Warwick, King’s College London, University College London, Paris Diderot, Mainz, Rostock, Göttingen and the Robert H. Smith International Center for Jefferson Studies at Monticello (Virginia).

Under the leadership of Prof. Dr. Lachenicht the EEASA will continue to offer a forum for scholars of American and Atlantic Studies from all over Europe, Latin America, the USA and Canada while cooperating with the Bayreuth Institute for American Studies (BIFAS). In order to ensure a stronger inclusion of Central and Eastern European researchers in international scholarly discourse, the EEASA has decided to hold its 2014 conference in Lublin, Poland.

During her term, which lasts until 2014, Professor Lachenicht aims to make use of bilateral and multilateral programs to promote joint research projects and international PhD programs. She is committed to strengthening collaborations with the McNeill Centre for Early American Studies in Philadelphia, the Society for Early American Studies and the Omohundro Institute for Early American History and Culture in Williamsburg, Virginia.

The Summer Academy of Atlantic History (SAAH), which was founded by Professor Lachenicht in 2009 and will take place for the third time in 2013, is already contributing to international PhD courses and programs. The SAAH was able to recruit Prof. Dr. Bernard Bailyn (Harvard), founding father of the New Atlantic History and Harvard Atlantic History Seminar, as keynote speaker for the third Summer Academy. Apart from having won the Pulitzer Prize twice, Prof. Bailyn was also awarded with the National Humanities Medal by President Barack Obama in 2011. The Medal is the most prestigious award given by the US government for achievements in the humanities.

With Prof. Lachenicht’s presidency, American and Atlantic Studies, coordinated by BIFAS, will continue to evolve into an internationally visible research focus at the University of Bayreuth.


Translation: BIAC
Carbon from Earth’s Interior: A Source for the Planet’s Carbon Cycle

Geoscientists from Bayreuth have published new insights into oxidation processes in the earth’s mantle in “Nature”

Due to its significance for climate change, the Earth’s carbon cycle holds particular interest for environmental and geoscientific research. How does carbon get from the Earth’s interior to the surface and further up into the atmosphere, and what are the chemical processes involved? This complex question is increasingly relevant, both under geo-historical aspects and with respect to global climate prognoses.

A group of scientists from the Bavarian Institute of Geosciences (“Bayerisches Geoinstitut” - BGI), a research centre at the University of Bayreuth, has made essential progress in unveiling the processes leading to the genesis of carbon-containing minerals in the Earth’s interior and the release of carbon dioxide. Until recently, researchers have largely underestimated such processes in the Earth’s mantle, as high pressure experiments have demonstrated. The research team headed by Prof. Dr. Daniel Frost and Dr. Catherine McCammon have now presented their results in the science magazine “Nature”.

Redox reactions in the earth’s interior: Interactions of diamond and iron

The genesis of carbon-containing minerals in the Earth’s interior is based on chemical reactions which scientists call “redox reactions”. These reactions are characterized by electrons passing from one material to another. Chemically spoken, the material emitting the electrons is oxidised, whereas the material absorbing the electrons is reduced. Redox reactions are involved in the metabolism and photosynthesis of living organisms as well as burning and corrosion processes on the Earth’s surface. However, redox reactions also occur in the Earth’s interior, where the oxidation of diamond rock produces carbon-containing minerals.

These minerals release carbon dioxide, which is bound in magma and transported up to the ocean’s floor by volcanic processes. Since diamond and iron often occupy neighbouring spaces...
in the Earth's interior rock, the oxidisation of diamond is often linked to the reduction of iron.

**Underestimated by research so far:**
Oxidation processes in the Earth's mantle

Preconditions for oxidation processes vary in the Earth's interior. The higher oxygen fugacity (i.e. the effective pressure of oxygen) is in a layer of rock, the more intensive the oxidation processes within. Scientists from Bayreuth have now succeeded in defining oxygen fugacity in various depths of the Earth's interior with unprecedented precision. Using the high pressure presses of the BGI, the scientists exposed rock samples to extremely high pressures comparable to those in various depths of the Earth's interior. They found that in the upper Earth's mantle, especially in a depth of about 150 kilometres, the preconditions for oxidation processes are much better than expected.

“Our experiments lead us to the following conclusion: To a far greater extent than anticipated, carbon-containing minerals in the upper Earth's mantle have been formed by rock from deeper layers which moved upwards and oxidised”, explains Catherine Mc Cammon. Her colleague Prof. Dr. Daniel Frost adds: “Oxidation processes in a depth of 120 to 150 kilometres lead to the conversion of diamonds and graphite into carbon dioxide. This causes melting processes and, as a consequence, a release of carbon dioxide from the Earth's interior. What we have here is a source of carbon dioxide which is essentially involved in the Earth’s carbon cycle.”

Daniel Frost was awarded with the European Advanced Grant, the highest-ranking research award of the European Union, in 2008 for his research on extremely high pressures in the Earth's interior.

**The BGI at the University of Bayreuth – a centre for successful young scholars**

The publication of the Bayreuth research team in “Nature” demonstrates how research at the BGI can boost the international careers of young scientists. Dr. Vincenzo Stagno, main author of the publication, conducted some of the high pressure experiments described in the article within the framework of his dissertation. He has recently started working at the Geophysical Laboratory of the Carnegie Institution in Washington. Dickson O. Ojwang is currently graduating from the Master’s programme “Experimental Geosciences” at the University of Bayreuth and will soon be working as research assistant at the University of Stockholm.

**Publication:** The oxidation state of the mantle and the extraction of carbon from Earth's interior, in: Nature 493, 84–88 (03 January 2013) DOI: 10.1038/nature11679


Translation: BIAC
Tropical forests are characterized by their unique biodiversity. In Central America, for instance, there are hundreds of tree species per square kilometre. Amidst this diversity, many species are extremely rare. This makes it particularly difficult to investigate environmental factors influencing the spatial distribution of tree species in tropical forests.

A research project has now investigated this issue with unprecedented precision in the forest areas along the Panama Canal. Prof. Dr. Bettina Engelbrecht, professor for plant ecology at the University of Bayreuth and research associate of the Smithsonian Tropical Research Institute (STRI) in Panama, has essentially contributed to the conception and implementation of the project. The research team has recently reported its results in the online edition of the science magazine PNAS (Proceedings of the National Academy of Sciences of the United States of America). The intensity of the dry season and phosphorus content in the soils are key factors for the distribution of the 550 tree species investigated.

Forest and soil analyses in a region of high diversity

“The tropical forests stretching along the Panama Canal from the Pacific to the Caribbean Coast are particularly well suited to investigating which environmental factors determine the spatial distribution of single tree species,” explains Prof. Dr. Bettina Engelbrecht. “In the highly diverse forests on this neck of land, which is just 65 kilometres wide, the amount of rainfall varies greatly. At the same time, we have an extraordinary diversity of geological conditions.” The research focusses on the question how soil humidity in the annual dry season and nutrients in the soil influence distribution patterns. The scientists determined all tree species in 72 selected forest areas. They also analysed the soils for seven essential nutrients and modelled the intensity of the dry season. Using a new statistical approach, they investigated for the first time how each single one of these eight factors affects each of the 550 tree species.

The two most crucial environmental factors: Annual dry seasons and phosphorus content in the soils

Two factors very clearly exerted the strongest influence on the distribution of tree species. The intensity of the dry season influenced more than half of the species, as did phosphorus content in the soils. The study has been the first to demonstrate that phosphorus plays a key role in the distribution of many species, thus influencing decisively the diversity of tropical forests. The scientists also made a surprising discovery. Not all species prefer places where high phosphorus levels and high soil humi-
dity promote growth, providing particularly favourable conditions. Instead, all four combinations of both environmental factors provide conditions under which some tree species thrive particularly well. This promotes biodiversity in the forests.

**Prognoses for climate change**

Tropical forests have the highest biodiversity worldwide while being globally significant due to their carbon storage capacity. At the same time they are severely endangered. “With this study, we have been able for the first time to identify the two most crucial key factors for the distribution of tropical tree species and the composition of tropical forests. We finally have a solid base for investigating which characteristics of trees make them prefer certain combinations of these two factors”, explains Prof. Dr. Bettina Engelbrecht. “This will essentially contribute to optimizing prognoses on the effects of environmental conditions changed by land usage or climate change on the composition, biodiversity and ecological services of rainforests.”

Original version (in German):

Translation: BIAC

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**UBT Events in Spring / Summer 2013**

10 May to 12 May 2013  
26th SWAHILI COLLOQUIUM „karibuni sana“, Bayreuth, Iwalewa House  
Programme:  
http://www.afrikanistik.uni-bayreuth.de/de/colloq/swahili_colloq/SwaKoll_Englisch_2013.pdf

13 June to 14 June 2013  
5th Bayreuth Business Conference  
Further information (in German only): www.oekonomiekongress.de

20./21. June 2013  
Deutsche Sportökonomie Arena  
Universität Bayreuth  
Further information: http://www.sportoekonomie.net

15 July to 19 July 2013  
29th International Conference of the Polymer Processing Society  
Nuremberg Conference Center (NCC)  
Further information: http://www.pps-29.com/

22 July 2013  
Alumni Event: Establishment of the Regional Network for Bayreuth Alumni in West and Central Africa  
University of Lomé, Togo  
Further information: http://www.international-office.uni-bayreuth.de/en/08_Alumni_International/2_For_Scholars/1_Y_Veranstaltungen/index.html

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**Herausgeber:**  
International Office  
Bayreuth International Alumni Center (BIAC)  
Universität Bayreuth  
95440 Bayreuth  
V.i.S.d.P.: Dr. Arnim Heinemann

**Redaktion und Layout:**  
Larissa Di Carmine, Nerissa Schwarz, Birgit Slotta

**Mitarbeit an dieser Ausgabe:**  
Pia Hagen, studentische Hilfskraft BIAC