International Alumni News University of Bayreuth Issue I/2012

Establishment of the International Alumni Network of the University of Bayreuth





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Dr.Armin Heinemann

Dear Alumni and friends of the University of Bayreuth,

In order to establish and maintain an international alumni network, the University of Bayreuth has made alumni activities a central objective of its Internationalisation Strategy.

In 2010, we set up the office *Bayreuth Alumni International*, which is mainly concerned with initiating and maintaining communication with student graduates. In 2011, we successfully participated in the ideas competition "*Research Alumni of German Universities*". As one of three prize-winning universities, we were able to establish the *Bayreuth International Alumni Centre* for researcher alumni in 2012. The Centre joined Bayreuth Alumni International in coordinating the central international alumni activities of our university. As operative units of the *International Office*, these departments offer services for our international graduates. They provide support for the alumni activities of individual members of this university as well as assisting with academic alumni projects in various subject areas, faculties, and institutes at the University of Bayreuth. The Bayreuth International Alumni Network is a free network meant for all current and former international members, guests, and friends of the University of Bayreuth. It is open to all Bayreuth alumni.

Our main projects for this network are:

- *Virtual workplaces for researchers*, which is set to be launched in early 2013;
- The establishment of an *international advisory board of researchers* by the end of 2012;
- *Alumni events* which will take place in various countries worldwide including China in September 2012, Kenya in November 2012, and Togo in March 2013;
- An electronic newsletter
- And an *interactive internet platform*, which is an integral part of our international alumni database facilitating communication amongst our graduates.

This short introduction makes it clear that it is no longer possible to imagine the internationalisation of the University of Bayreuth without the Bayreuth International Alumni Network. 50 The Network has already attracted 150 registered members from countries. We hope and expect this network will be a strong source of support for the activities of the University of Bayreuth abroad. It should also be an essential catalyst for internationalisation on campus. We are happy to provide you with our first International Alumni Newsletter. We hope that you will enjoy reading it. We are looking forward to receiving your feedback.

Sincerely yours,

Arnim Heinemann

Director of the International Office

We are the Alumni-Team!



Hello researchers, students, alumni and friends!

from left: L. Di Carmine, Nerissa Schwarz, Birgit Slotta

Larissa Di Carmine

Learning other languages, getting to know foreign countries, meeting new people and gaining new impressions, all of this is now possible for me by working at the Bayreuth International Alumni Centre. It's a place where my interests come together.

I have finished an education as a foreign language correspondent and the connection with other cultures and countries has always been important for me.

In the past, I also had the chance to gain some work experience in the hotel business, where I was also responsible for planning different ceremonies and conferences. I have learned a lot about the organization and implementation of large events.

For this reason, I'm looking forward to our events scheduled to take place in Shanghai (September) and Kenya (November).

Now I can use my knowledge in a practical way by interacting with alumni from all over the world! I can plan the homecomings for you and I hope you have as much fun as I do!

Nerissa Schwarz

When I received my first alumni newsletter from an English university about 15 years ago, I was puzzled. I had certainly heard the term alumni before, but for some reason it always made me think of a conspiratorial club of wealthy, nostalgic VIPs making regular donations to their former university. Now I am an alumni coordinator myself with a slightly different perspective: Far from being exclusive, conspiratorial clubs, international alumni networks can offer great opportunities for international networking, research cooperation or simply staying in touch with old colleagues and friends. It is a great pleasure (well, most of the time at least) to help build this network from the very beginning.

I hold a degree in European Studies, Intercultural Communication and English literature and have worked in the Bayreuth International Alumni Centre since January this year. My colleagues also wanted me to add that I am a pasta addict, though you can judge for yourselves if this is of any relevance.

Birgit Slotta

As the contact person of Bayreuth Alumni International I am pleased, to keep you up to date and stay in close contact with you. I send news and important information about the development of the university, special training, further education among other things.

As a native Bayreutherin and enthusiastic wanderer, I would like to give you information in matters of culture and country.

Anyone who has gotten to know Bayreuth knows Wagner and his music but that is not all. The Franconian beer gardens and delicacies, such as: "Broadworschd mit a bissala Sänfd" eaten with fellow students and colleagues is also hard to forget.

I wish you continued success in your work or school life and hope we meet again one day at the University of Bayreuth.

Official Launch of the Bayreuth International Alumni Network (BIAC)

Already 140 registrations just a few months after the start of the project



From left .:

Dr. Arnim Heinemann (Director, International Office), Thomas Ebersberger (2nd Deputy Mayor City of Bayreuth), Prof. Dr. Stefan Leible (Vice President for International Affairs and External Contact), Prof. Dr. Dieter Neubert (Chair Department for Sociology of Development), Dr. Beate Konze-Thomas (DFG), Nerissa Schwarz (BIAC Coordinator), Ulrich Gerd Dr Rauer (Intercultural German Studies). Prof. Dr. Dymitr Ibriszimow (Speaker BIGSAS)

The University of Bayreuth officially launched its network for international students, scholars, alumni, and friends with a kickoff event. The Bayreuth International Alumni Centre (BIAC), which has already been recognized with an award from the Humboldt Foundation, is an essential part of the network.

Vice president Prof. Dr. Stefan Leible opened the event with a welcome address. City representative second deputy mayor Thomas Ebersberger conveyed greetings on behalf the city. The program that followed included a presentation from Dr. Beate Konze-Thomas of the DFG, a presentation about research funding and alumni work from Ms. Anne Kathrin Jansen of the DAAD, and presentations from international students about their internship experiences in Bayreuth.

The BIAC project presentation was the main focus of the event. Free online registration for the open network is available to all current and former international scholars of the University of Bayreuth. The goal is to stay in contact with alumni and to help members of the University of Bayreuth build their networks, whether it be as future guest lecturers, researchers, or role models for future graduates. Another goal is to improve networking abroad so that alumni act as ambassadors for Bayreuth as a research location. Members of the international alumni network profit from several service offerings. Plans include: an electronic newsletter, an attractive internet platform for exchanging ideas, events in various countries, and virtual workspaces for researchers. More than 140 alumni from over 40 countries have already registered. Discussions with participants and written surveys showed a very positive reaction to the event and project presentation. An informal meal at the Iwalewa House completed the evening.

Now the BIAC is looking forward to the events in Shanghai in September and Eldoret in November.

Original version: Press release of the University of Bayreuth, 2 August 2012

http://www.uni-bayreuth.de/presse/Aktuelle-Infos/2012/251-Bayreuth-International-Alumni-Network.pdf

The Margravial Opera House – a unique monument of Baroque theatre culture

Opera House in Bayreuth announced as World Cultural Heritage site



The Opera House at night

The UNESCO world heritage committee included the Margravial Opera House in the list of world natural and cultural heritage sites during its 36th conference in St. Petersburg on June 30, 2012. The committee praised the opera house as a "unique monument of European festival and music culture of the Baroque era". According to the committee, it is one of the most important architectural testimonials to absolutist society in the 18th century and has been preserved completely in its original form.

Commissioned by the Margravial couple Friedrich and Wilhelmine von Brandenburg-Kulmbach, the opera house was built between 1746 and 1750 by the leading European theatre architect Giuseppe Galli Bibiena. It is in the style of a courtly festival room in absolutist society. In this era its size and magnificence was comparable only to buildings in Vienna, Dresden, Paris or Venice.

The opera house is a box theatre made entirely of wood with a painted screen. Due to its stuccoed, carved and painted decoration it is considered unique worldwide. It is the only theatre to allow an authentic experience of the art genre "Opera Seria" as a representation of the political system of absolutism. Even today the opera house is a vibrant location for the performance of musical theatre, providing the same acoustic experience audiences would have enjoyed 270 years ago.

Press release of the Bayerische Schlösserverwaltung

Photos: Bayerische Schlösserverwaltung http://www.bayreuth-wilhelmine.de/deutsch/opernh/unesco.htm Translation: BIAC



Into an Excellent Future:

The Bayreuth International Graduate School of African Studies

It is an impressive achievement of the University of Bayreuth and a milestone for the dynamic growth of its African focus: The excellence initiative of the German federal and state governments will continue to fund the Bayreuth International Graduate School of African Studies (BIGSAS) for the next five years.

"The decision boards of the excellence initiative have once more honored the international top position the University of Bayreuth has reached in Afri-

can research", said Prof. Dr. Rüdiger Borman, President of the University of Bayreuth. "The boards' decision has confirmed the University of Bayreuth in its strategy to provide high-capacity, interdisciplinary areas for both research and teaching. As one of the leading centres of African research the University of Bayreuth will conti-



nue to offer promising opportunities for talented researchers from Africa, Europe and other parts of the world."

In the Bayreuth International Graduate School of African Studies 108 PhD students are currently working on their doctoral theses. Their research projects vary between linguistics, literary studies, cultural studies and social sciences, referring to 28 countries in Africa and three countries in African diaspora. "In the BIGSAS graduate school highly motivated and talented young scholars from all continents have the opportunity to develop their research focusses and ideas", explains Prof. Dr. Dymitr Ibriszimov, spokesman of BIGSAS. "They are mentored by experienced senior fellows who have carried out research on Africa for decades and have been building a tight network of research contacts in all regions of Africa."

BIGSAS has particularly close relations with 6 universities in Ethiopia, Benin, Kenya, Morocco, Mozambique and South Africa. These African partners are already involved in recruiting and selecting the

best candidates for BIGSAS. In the coming years the partner universities will also be partially responsible for mentoring the PhD students. In the long term

In the long term this equal cooperation aims at promoting the development of excellent graduate schools comparable to BIG-SAS in various

regions of Africa. As research centres, they could play a key role in training outstanding experts and professionals for business, culture and politics.

Unabridged original version: Press release of the University of Bayreuth, 15 June 2012

http://www.uni-bayreuth.de/presse/Aktuelle-Infos/2012/216-Exzel-Ienz-BIGSAS.pdf

Translation: BIAC

Africans in China From Ghana to Guangzhou



Prof. Dr. Adams Bodomo in front of an African trade centrein GuangzhouPhoto: Prof. Dr. Adams Bodomo

First systematic study about Africans in China: A new diaspora in the 21st century.

As China and Africa cooperate ever more closely in economics and politics, more and more Africans are migrating to China to live and work there. Prof. Dr. Adams Bodomo, professor for linguistics and African studies at the University of Hong Kong and visiting scholar at the Institute of African Studies at the University of Bayreuth, is the first researcher to systematically study the life of Africans in China. The results of his research, titled "Africans in China: A Sociocultural Study and its Implications on Africa-China Relations" have just been published.

Six big Chinese cities as focusses of immigration

The study is based on questionnaires and in-depth interviews as well as work done with a network of personal contacts including nearly 1000 Africans in various regions of China. The number of Africans currently living in China cannot be deduced from official statistics. Using extrapolation, Bodomo estimates their number to be aproximately half a million. About 100,000 live in the metropolis of Guangzhou where thousands of multinational companies have their headquarters. Hong Kong, Macao, Yiwu, Shanghai and Beijing are further centres of the African diaspora. The study uses the term "Africans in China" for all citizens of African countries who live in China as well as individuals claiming to be of African origin because of cultural or family relations. Traders trying their luck on the markets in these big cities form the largest group, with numbers ranging between 300,000 and 400,000. They must be distinguished from the 10,000 to 20,000 business people coming to China as representatives of wellestablished companies. Most economic activities are aimed at buying low-price goods in China in order to export them to Africa for profit. Bodomo estimates the number of students in China to range between 30,000 and 40,000. Moreover, there are between 4000 and 5000 professionals, including professors, teachers, athletes and government representatives.

The study highlights demographic and cultural particularities of the six big cities in which the majority of African immigrants live. While many North Africans live in Yiwu, for instance, the number of West Africans is significantly large in Guangzhou. This expanding economic centre has a lively African culture scene characterised by pop music and dance. In everyday business the Africans and Chinese have developed a mostly non-verbal manner of communicating which Bodomo calls "Calculator Communication". A calculator, gestures, body language and a few Chinese, English or French expressions are sufficient for successful trading.

Integration into Chinese society?

Migrants as a future bridge between the countries of Africa and China

The study strives to gather more information about the everyday life and well-being of African immigrants. The questionnaires and interviews give a mostly homogeneous picture regarding social and cultural integration. Africans in China mainly wish to do business successfully without facing barriers or harassment. They also attend cultural events, sports events and religious services. These might offer an opportunity to get in touch with the Chinese population. Most Africans, however, are not interested in a deep and lasting integration into Chinese society. According to Bodomo, the lack of clear and promising procedures for attaining Chinese citizenship is one reason for that.

Personal experiences with state authorities provide another reason why Africans in China are rarely interested in building close relationships with the Chinese people around them. According to numerous interviews, unfriendly, distrustful or even disrespectful behaviour by police or immigration officials is not a rare occurence. On the other hand, many Chinese meet African immigrants with unbiased curiosity and kindness. According to Bodomo, a liberalisation of immigration policies could boost the willingness of Africans to integrate into Chinese society. In his view, there is a chance that Africans living in China will evolve into a bridge linking their countries of origin and China, both in economic and political respects.

Publication:

Adams Bodomo, Africans in China: A Sociocultural Study and Its Implications on Africa-China Relations Amherst/New York (Cambria Press), 2012

Press release of the University of Bayreuth, 8 June 2012

Unabridged original version (in German): http://www.uni-bayreuth.de/presse/Aktuelle-Infos/2012/206-Afrikaner-in-China.pdf

Translation: BIAC

How Research on Mars Helps us Understand Pollutant Degradation in Groundwater

Dr. Christian Schröder, the only European co-author of a "Science" report on new results of research on Mars, makes the connection to ecological sciences.

How are rock surveys on Mars connected to ecological questions on earth? "In many more ways than meet the eye", explains Dr. Christian Schröder, the only European co-author of a report on research at the Mars crater "Endeavour", published in the magazine "Science". The results allow for the conclusion that conditons favourable to life were present at the crater's edge at least at some time in the past. Schröder belongs to a group of ecological scientists at the University of Bayreuth funded by the German Research Foundation (DFG). The group is conducting research on anoxic aquiferous layers beneath the earth's surface, which have a significant function in the self-purification of groundwater.

New evidence for conditions favourable to life on Mars

The Mars crater "Endeavour" was formed by a meteorite impact, which made deeper layers of rock accessible. The rock originates from earlier Martian periods than the sulphurous iron oxidic sandstone the Mars Rover has navigated so far. Thus, the crater rock enables researchers to look deeper into the past. The results presented in "Science" now show that the rock at the crater edge of "Endeavour" bears a strong resemblance to Suevit, a kind of rock typical for impact craters, which scientists documented at the "Nördlinger Ries" (a crater in Bavaria) for the first time. Later sulphurous water with a temperature below 60° C flowed through the fissures and cracks of the crater rock on Mars, as shown by the small veins of gypsum discovered there. This allows for the conclusion that conditions favourable to life were present at the crater's edge at least at some time in the past.

Related research areas: chemical reactions on Mars, self-purification of groundwater

Insights into Martian rock layers are so intriguing because they enable scientists to study the behaviour of iron minerals in oxygen-free surroundings par excellence. Rock on the Martian surface is rich in iron and 95 per cent of the planet's atmosphere consists of carbon dioxide. Research on the chemical reactions taking place in the absence of oxygen provides the connection with the DFG research group from Bayreuth of which Dr. Christian Schröder is a member. The group studies the reactions of iron minerals in ground water with sulphur and solved organic substances when groundwater is cut off from oxygen supply. These reactions contribute to pollutant degradation in groundwater, while enabling microorganisms to breathe and survive in the absence of oxygen.

"Indirectly, research on Mars - and the research methods in particular - help us understand processes the cleanness of our groundwater depends on. The transfer of knowledge also works the other way round", explains Schröder who is currently working at the Centre for Applied Geosciences at



Mars Rover Opportunity at Endeavour Crater Photo: NASA/JPL-Caltech/Cornell/Arizona State Univ

the University of Tübingen. Prof. Dr. Stefan Peiffer, leader of the DFG research group and professor for hydrology at the University of Bayreuth, shares this view. "It is, above all, the methodical component of the survey of phases containing iron under anoxic conditions that results in a fruitful exchange of research areas and boosts our understanding."

Mößbauer spectroscopy: A key procedure for research on iron-containing materials

The use of Mößbauer spectroscopy is the reason that rock surveys on Mars can be so precise and promote our understanding of processes in groundwater. On board the Mars rover "Opportunity" there is the Mößbauer spectrometer MIMOS II – a highly efficient measurement device co-developed by Schröder at the University of Mainz. Mößbauer spectroscopy is a measurement method from nuclear physics which is very well-suited to disclosing the structure as well as the physical and chemical character of materials containing iron. The method has significance for both research on Mars and surveys of aquiferous rock layers beneath the earth's surface.

Publication:

S. W. Squyres, R. E. Arvidson, J. F. Bell III, F. Calef III, B. C. Clark, B. A. Cohen, L. A. Crumpler, P. A. de Souza Jr., W. H. Farrand, R. Gellert, J. Grant, K. E. Herken- hoff, J. A. Hurowitz, J. R. Johnson, B. L. Jolliff, A. H. Knoll, R. Li, S. M. McLennan, D. W. Ming, D. W. Mittlefehldt, T. J. Parker, G. Paulsen, M. S. Rice, S. W. Ruff, C. Schröder, A. S. Yen, K. Zacny,

Ancient Impact and Aqueous Processes at Endeavour Crater, Mars in: Science 4 May 2012, Vol. 336 no. 6081 pp. 570-576; DOI: 10.1126/science.1220476

Press release of the University of Bayreuth, 4 May 2012 Unabridged original version (in German): http://www.uni-bayreuth.de/presse/Aktuelle-Infos/2012/186-Marsforschung-Grundwasser.pdf

Translation: BIAC

ERC Starting Grant for Professor Andreas Fery

The European Research Council wants to encourage excellent scholars

To encourage excellent scholars with visionary ideas. To support young researchers who develop advanced research concepts that push the boundaries of research and are on the cutting edge of technology. This is the aim of the European Research Council's ERC Starting Grant, one of the most wellfunded sponsorship



Prof. Dr. Andreas Fery (left) with Dr. Nicolas Pazos Peréz, senior scientist for the synthesis of nanoparticles; Chair of Physical Chemistry II, University of Bayreuth. Photo Chr. Wißler

schemes for young European top researchers. Prof. Dr. Andreas Fery, head of the experimental physics II department at the University of Bayreuth, has won the highly coveted distinction.Now his project METAMECH has been recommended to receive funding for the next five years in form of an ERC Starting Grant. The amount of almost 1.5 million Euros will give him the opportunity to put together a researching group in a promising area of research - an area of research that was said to be a curious fringe topic five years ago.

Artificially compounded material is the focal point of his project. This material makes it possible to regulate waves of light in a completely new kind of way. An unusual structure characterizes these kinds of material. Normally, molecules and their individual compositions define the optical properties of a material. When it comes to metamaterials, nanoparticles with exactly defined properties form a fine structure that defines the interaction of the material through waves of light.

Up until now, the metamaterials have been produced using a lithographic prodedure. This procedure is very expensive and can only be applied to very small surfaces. The resulting components move within a 10 to 100 micrometer range. This range is unattractive for most technical applications and also makes the analysis very difficult.

For this reason, Andreas Fery and his team are fol-

metamaterials can be systematically ascertained. If the nanoparticles are arranged in a suitable fashion, it is possible to control the electric and magnetic reaction of the material to incident light.

lowing another plan.

With a procedure developed in Bayreuth, they

would like to produce

layers, streaked with

precisely applied folds. Colloidal particles then

integrate into these

Because of the folds,

the self-organization of

the nanoparticles does

not occur randomly, but

is controlled. In this

way, the resulting opti-

cal properties of the

stuctures.

Research has already demonstrated various groundbreaking properties of metamaterials. There are materials, for example, that have a negative refraction index or lateral variable optical constants. The potential applications range from sensor technology to information technology and new microscopes that circumvent the commonly constrained resolutions for light microscopes.

"For the future of this area of research it is absolutely decisive to find approaches that allow for the manufacture of metamaterials on a larger scale. When we have found the right approach, it will open the to an exciting class of materials that could revolutionize our understanding for optics and could also reveal completely new applications for the material", Prof. Dr. Andreas Fery explained.

"The research environment at the University of Bayreuth, especially collaboration within the context of Collaborative Research Area 840, `from paritculate nanosystems to mesotechnology`, and the profile field of polymer and colloidal research provides excellent conditions for this kind of thing."

Press release: 21 June 2012 http://www.bzkg.uni-bayreuth.de/pdf-ressources/ERC_Prof___

Fery.pdf

Translation: BIAC

Making Web Searches Faster and More Precise

Computer scientists from Bayreuth boost the efficiency of the query language SPARQL

For most internet users the worldwide web is an inexhaustible source of information and entertainment. Only a few, however, are aware of the highly complex system of file formats, programmes and query languages behind all the texts, pictures and music. Mathematicians and computer scientists worldwide are working on the enhancement of this system in the interest of internet users. Two of these scientists are Prof. Dr. Wim Martens, professor for theoretical informatics at the University of Bayreuth, and his PhD student Dipl.-Inf. Katja Losemann. They discovered weak spots in the comparably new query language SPARQL which slow down work with large amounts of data, impeding fast and pinpoint searches on the internet. Having submitted a proposal to the World Wide Web Consortium (W3C) on how to tackle the problem, the two computer scientists from Bayreuth have recently had the opportunity to present their ideas on optimizing the web to international experts at a conference in Arizona.

The W3C has recommended SPARQL since 2008. The query language facilitates the processing of special data, which enhances the structure of the World Wide Web by labelling all kinds of information sources according to formal characteristics. This is achieved by using the Resource Description Framework (RDF), a system of rules defining the standards for the formal description of information sources. This is comparable to books in a large library, which are much easier to find if information about authors, titles, publishing dates and further keywords are catalogued according to certain standards. In a similar way, though at a much higher level of abstraction, the data created with RDF facilitate access to information sources on the World Wide Web. SPARQL has been developed to process this data. The new language is used in many web searches without users being aware of it.



Dipl.-Inf. Katja Losemann and Prof. Dr. Wim Martens during an excursion to the Grand Canyon after the official conference program Photo: Wim Martens

Prof. Dr. Wim Martens and Katja Losemann have discovered that SPARQL is counterintuitive in some respects. The language is not constructed in the way mathematically trained users would expect. They also demonstrated that SPARQL works inefficiently in parts. In some cases it takes extraordinarily long to process a small number of bytes with simple programmes written in SPARQL. As soon as terabytes of data are involved, as is usually the case with large databases, the processing can take several years even with high capacity computers. "Our theoretical analyses and empirical tests demonstrated that this inefficiency is not caused by faulty or inept programming", Martens explains. "The reason is rather the query language SPARQL itself or, to be more precise, a feature which was introduced only in 2010. So far, the W3C has not introduced this feature as a standard. Thus we had the chance for a timely intervention with our enhancement proposal." The collaboration with Katja Losemann soon resulted in a proposal eliminating the weak spots. "We are optimistic that the W3C will be open to our suggestions", the PhD student from Bayreuth says. "The normal internet user expecting fast and precise answers to his or her search queries is very likely to benefit from it especially if SPARQL and the standards defined by RDF further pervade the web."

The computer scientists from Bayreuth consulted their enhancement proposal with colleagues from the University of Chile and the Papal Catholic University of Chile, which are both situated in the capital Santiago. There three scientists also conducted intense research on SPARQL, discovering the same problems. "The fact that three independently working teams of researchers submit the same enhancement proposal will heighten our chances of success with the World Wide Web Consortium", Martens believes. The computer scientist will also dedicate his future research to enhancements in the World Wide Web.

Publication:

Katja Losemann, Wim Martens: The complexity of evaluating path expressions in SPARQL, in: PODS ,12 Proceedings of the 31st Symposium on Principles of Database Systems, Association for Computing Machinery (ACM), New York 2012, pp. 101-112 DOI (Link): 10.1145/2213556.2213573

Press release of the University of Bayreuth, 12 June 2012

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