

MAGAZINE

OF HEINRICH HEINE UNIVERSITY DÜSSELDORF

A photograph of Frank-Walter Steiner, the former President of Germany, speaking into a microphone. He is wearing a dark blue suit, a white shirt, and a patterned tie. He has grey hair and is wearing glasses. His right hand is raised in a gesture while he speaks.

GERMANY'S FORMER PRESIDENT AT HHU

Reflections on the familiar
and the foreign

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Forum for cultural
activities

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Is Düsseldorf an
alternative to London?

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Highly talented
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Legal notice

Publisher:

Communications Office of HHU Düsseldorf in cooperation with the Office of the Vice-President for International Relations and the International Office

Title image:

Wilfried Meyer

Layout and typesetting:

zweizeueins GbR, www.zweizeueins.net

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Editorial



Dear Reader

I am very pleased to be able to present to you what is meanwhile the ninth issue of our HHU Magazine with interesting reports on current projects and developments at Heinrich Heine University.

This year in particular France is dear to our hearts: That is why we will be staging a French Day at HHU on 19 June 2018. This will on the one hand offer a platform for French universities to present themselves and on the other hand be a source of information for school-leavers in the region and a possibility for them to familiarise themselves with the opportunities available to study in France, complete a programme at our University that has a connection with France and find out more about spending a semester abroad. In addition, we want to inform our visitors about degree programmes and research priorities at French universities in the framework of a “University Marketplace”. This will be rounded off by a presentation of selected research priorities at our University.

Does ‘speechlessness’ prevail between France and Germany? This will be the title of a panel discussion where the importance of German-French exchange but also the difficulties in

the scientific dialogue between Germany and France as well as cultural differences between the two mentalities in the area of academic work will be debated. And finally we want to transform this day into a German-French festival at HHU Düsseldorf with culinary specialities and music performances. Dear Reader, perhaps the one or other of you might even have the opportunity to visit our French Day in June. I’d be delighted to welcome you!

Until then I hope you enjoy reading the latest issue of our HHU Magazine. This time you can learn about former German president Joachim Gauck’s visit to our University, how bacteria attack cells and whether Düsseldorf is an alternative to London! I wish all of us continued productive cooperation at international level!

Yours sincerely

Professor Andrea von Hülsen-Esch
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Germany's former president Joachim Gauck at Heinrich Heine University

Lecture and panel discussion



Photo: Wilfried Meyer

Germany's former president Gauck reflected on the familiar and the foreign in front of a very interested audience.

He was rarely able to console me. But he strengthened my resolve to adopt my own stance," said Joachim Gauck, summarising his view of Heinrich Heine. In the framework of the guest professorship that bears Heinrich Heine's name, Germany's former president visited HHU on 31 January and 1 February, gave a lecture and took part in a panel discussion. "With this guest professorship, HHU is contributing to the debate on current and socially important issues," said Professor Anja Steinbeck, HHU President, in her welcome address: "Heinrich Heine University enter into a dialogue with local citizens on topical issues."

"A Reflection on the Familiar and the Foreign": That is what Gauck wanted his lecture to be. Professor Steinbeck introduced the topic: "In our globalised world, it is the case today more than

ever before that cultures are not homogenous and uniform entities. Cultures are not boxes in which we find standardised and collective ways of life. Cultures are living entities that mutually stimulate each other, engage in a process of exchange and are constantly changing."

The relationship between the familiar and the foreign is one of the most difficult problems of our times, said Gauck and he explained: "Foreigners are not classifiable. They trigger irritation." Germany's former president pointed out that the fear of foreigners is not, however, a recent historical development but far more an anthropological constant: "We mostly idealise that which is familiar to us and tend to demonise all things foreign." He went on to say that members of a group were run down not because of individual reprehensible characteristics but instead were

“WE MOSTLY IDEALISE THAT WHICH IS FAMILIAR TO US AND TEND TO DEMONISE ALL THINGS FOREIGN.”

Joachim Gauck, Germany's former president

considered bad and inferior because they belonged to the other group. “Our own nation subsequently only consists qua definitionem of ‘good people’, who even perhaps feel that they are the chosen ones. And outside the tribe, the language group, the ethnic group or the religious community live only ‘bad people’, who are excluded and perhaps even denied to right to live.”

Find effective answers

Gauck pointed out that the development of nation states that aspired to linguistic, political, ethnic, religious and cultural homogeneity had at times prevented tension between countries, but he made it clear that this is not a solution at the present time: “In a world that is becoming increasingly globalised and digitalised, in which territorial borders are playing less and less of a role, in which migration can only be regulated and the fight against climate change are only possible in a joint effort between nations, in such a world supranational institutions as well as universalist and cosmopolitan thinking are in principle a far more suitable way to find effective answers to the challenges facing us.”

Fear and rejection of foreigners are the outcome of a deficient identity, said Gauck and with reference to anthropologist Benedict Anderson he pointed out that a nation is by no means something natural or eternal: “If we are convinced today that nations are not manifestations of which the validity is unending but instead something thought and done by people, then we are

free to think of the nation as a community in a way that is different to that which the founders of nation states did and to fill them with life.

Don't expect too much of people

The significance of the nation is also subject to constant change. What becomes of it evidently depends to a considerable degree on people's idea of it and how they action it. Someone who rates the concept of nation positively does not necessarily end up a nationalist.” Yet he also warned against expecting too much of individuals: “A national state should not, however, expect too much of itself either. Even a person who is open to the world reaches his or her emotional and intellectual limits if things develop – above all things of a cultural nature – too fast and on too great a scale.”

Panel discussion chaired by Ulrich Wickert

Hence in the panel discussion too Gauck advocated accepting differences and pointed out that an exaggerated nationalism often evolves because something else is missing. “The concept of ‘nation’ should not stand above ‘Europe’, but we should not relinquish it either,” he said. Sociologist Professor Ulrich Rosar said too that the dualism of ‘us’ and ‘them’ is a constitutive element for communities and societies. “Identity is defined by social affiliation and in this context of course everyone wants to belong to that group which is rated positively.” This was also



1: Germany's former president Joachim Gauck in discussion with Ouassima Laabich, Professor Ulrich Rosar and Professor Reinhard Pietrowsky (from behind)

2: After Gauck's lecture, HHU's president chaired the Q&A session.

3: A large number of visitors and top people from the city listened to Gauck's lecture and the panel discussion.

confirmed by Professor Reinhard Pietrowsky from a psychological perspective. "First of all, fear is an important feeling. But civilisation also means overcoming fear and in this context it's important to take a closer look at this fear of the foreign before it can be overcome. Only through repeated contact does the foreigner become familiar. And only by getting to grips with our own identity does a maturing process evolve and do we know who we are." Knowing or searching for our own identity – Ouassima Laabich, ambassador of the German Academic Exchange Service (DAAD), described this process too. "I'm German, European and Moroccan at the same time and experience time and again that my 'being more than one thing' confuses others." She is nonetheless firmly convinced: "It is wonderful to be able to draw from different perspectives and cultures."

The discussion turned rather controversial when the question was asked about a regression to uncivilised times. University dean Ulrich Rosar pointed out that civilisation has only a thin skin:

"We shouldn't be too optimistic about the possibilities offered by discourse. The patina of enlightenment is thin and often worn down by everyday life." "Self-control is possible," countered Gauck and pointed out that this must also be made clear to foreigners coming to Germany. He himself was in any case optimistic about the future, he said, because despite all uncertainties there was no fundamental feeling of insecurity and most Germans were very content with their personal situation.

Joachim Gauck's next lecture will take place on Wednesday, 18 April 2018, at 16:00 in Auditorium 3A. The Heinrich Heine Guest Professorship was a gift of the Federal State of North Rhine-Westphalia to the University on the occasion of its naming in 1988. Amongst the guest professors to precede Joachim Gauck were Marcel Reich-Ranicki, Richard von Weizsäcker, Helmut Schmidt, Wolf Biermann, Siegfried Lenz, Durs Grünbein, Joschka Fischer, Karl Kardinal Lehmann and Ulrich Wickert.

V.M.

CREATING KNOWLEDGE, SHARING KNOWLEDGE

University Development Plan 2017–2021



► Professor Klaus Pfeffer,
Vice-President and Project
Manager for the University
Development Plan

Heinrich Heine University has published its current University Development Plan for the period from 2017 to 2021 (HEP 20.21). It contains concrete plans and objectives and sets down extensive measures for all areas of the University in order to be ready for future challenges in research, education, transfer and university management. Continuing to strengthen the University's sustainability and competitiveness is an important task.

HHU's overall strategy articulated in the framework of the plan is entitled "Creating knowledge, sharing knowledge". This mandate covers all three areas in which the University intends to further refine its profile: Research, teaching and transfer. In research, knowledge is created. In teaching and transfer, knowledge is shared.

Professor Anja Steinbeck, HHU President: "The strategic measures anchored in the University Development Plan will facilitate the continued successful development of Heinrich Heine University in research and teaching. We additionally want to give greater weight in our University's strategic positioning to transfer as the third dimension of our academic portfolio and further sharpen our profile as a citizens' university.

The declared objective is to further enhance HHU's attractiveness for outstanding scholars,

early career researchers and employees in its faculties, central institutions and university administration. It also aspires to attract first-class students and guarantee excellent quality in studies.

Research, teaching, transfer

The University Development Plan was preceded by intensive discussion across the whole University. Professor Anja Steinbeck: "Under the leadership of Vice-President Professor Klaus Pfeffer, who was in charge of the project, the President's Office worked together with the faculties and all the relevant committees on a basis of trust. This participative process makes sure that the University Development Plan is accepted across the board." C. G.

- **Further information and an interview (in German) with Vice-President Professor Klaus Pfeffer can be found under:**
www.uni-duesseldorf.de/home/universitaet/weiterfuehrend/hochschulentwicklungsplan-der-hhu.html

Spanish Centre at the universities of Düsseldorf and Wuppertal

Networked research and a forum for cultural activities

Photo: Meierlaborn/HHU



Link theory and practice, reach out not only to students but also to people in the city: That is what Professor Rolf Kailuweit wanted to do with his seminar “Tango – A cultural phenomenon”. And that is precisely what the Spanish Centre set up in 2017 by Heinrich Heine University and the University of Wuppertal aims to do too. Professor Ursula Hennigfeld (Heinrich Heine University) and Professor Matei Chihaiia (Wuppertal) are jointly in charge of it.

“We want to network all the research related to Spain being conducted in the various faculties,” says Ursula Hennigfeld, explaining the centre’s approach. Colleagues in other subjects and all faculties are invited to become members. At the moment we are working together here in Düsseldorf with colleagues from the Historical Studies and Art History departments.” The aim of

the centre is to foster academic cooperation amongst Spanish studies researchers and teaching staff at both universities and provide a forum for cultural activities to do with the Spanish-speaking world. What is important to her is that

Overview of all Spanish-speaking countries

the centre does not just focus on Spain but takes a look at all Spanish-speaking countries, for example at the Summer School of the German Academic Exchange Service (DAAD) entitled “Literature and Violence in Mexico and Central America” that will take place on 7-17 May 2018 in Wuppertal. Or Professor Kailuweit’s tango seminar already mentioned above and in which

he wanted to examine two different topics with his students: Firstly, the question of the tango in Germany. “How much ‘Argentina’ does it contain? How is this communicated? What do the students find typically Argentine about this dance?” says Kailuweit, explaining his intentions. Secondly, he wanted to take a look at the dance in Argentina itself. What role does the tango play there? Kailuweit has followed the Argentine

Tango – A love-hate relationship

people’s love-hate relationship with the tango for many years: “It’s their top export, popular and at the same time coarse, a lower class phenomenon which, however, young middle-class people nowadays also find interesting.” The tango came to Paris in the 1980s and advanced from there throughout the whole of Europe. It started to be re-imported to Argentina again from the beginning of the millennium. And partly used as a tourist attraction.

The great interest shown by Germans in the tango was also clear in the seminar: In the practical part at University House about half the participants were from the city and most of them had some experience of the tango. Apart

from lectures in the area of dance sociology, the goal was also to test “using your own body” (as Kailuweit puts it) the theory learnt previously in the classroom. Despite looking beyond Spain, the Spanish Embassy and the Spanish Ministry of Culture are at the moment the centre’s main cooperation partners and supported the conference last year entitled “Gernika/ Guernica 1937–2017: Presence and Productivity of Collective Memory”. The exhibition “The Faces of Spanish Film”, which was on display at University House, was also a present from the Embassy.

Apart from the Summer School, a workshop in Düsseldorf with the title “Looking South: Spain in the European Literary and Cultural Imagination since 1986” with Professor Shelley Godsland from the University of Amsterdam is planned for 2018 as well as a seminar and exhibition on the topic of “Farmers on the Solentiname Islands Paint the Gospel” in cooperation with the Catholic Education Centre of Wuppertal/ Remscheid/Solingen and the international congress entitled “La representación cinematográfica de Latinoamérica como lugar de violencia” in Wuppertal. V.M.

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THE FASCINATION OF SELF-REFLECTION

Armenian researcher studies Germany’s national poets

Thomas Mann and Günter Grass are not only the German writers of the 20th century who are the best known internationally and the most influential. They also have in common the prominent autobiographical perspective found in their works. Both often also supplemented references to their own lives with literary self-reflection. It is precisely this stylistic device that Dr. Yelena

Etaryan is currently examining at HHU with the help of a fellowship from the Humboldt Foundation and will soon make known in Armenia too.

With “Doctor Faustus”, Yelena Etaryan has taken on an extremely complex novel which, amongst others, is full of references to contemporary history and music theory, but above all can be regarded as an allegory for the folk myth

“Faust”. In turn, for his “A Broad Field” Grass used Theodor Fontane’s complete

Goal: Post-doctoral qualification

works but especially the novel “Effie Briest” as a source of inspiration and reflection. Etaryan’s research topic hence

“MY MOTHER ADVISED ME TO SWIM AGAINST THE TIDE AND STUDY WHAT I LOVE.”

Dr. Yelena Etaryan, Humboldt Foundation research fellow

unites a lot of literary and very German material. Her objective: To produce a monograph in Armenian that should enable her to complete her post-doctoral thesis (Habilitation) at Yerevan State University.

Accolade for researcher and HHU

The Georg Forster Research Fellowship of the Alexander von Humboldt Foundation is a rare accolade: Yelena Etaryan is the first Humboldt fellow from Armenia for nine years – such a special honour that she received a personal invitation from the German ambassador in Armenia. She has achieved this success amongst others by tirelessly publishing articles in German-language journals but also through the personal support of Professor Andrea von Hülsen-Esch, Vice-President for International Relations. Hence HHU can pat itself on the back too, since the Humboldt fellows themselves choose where they want to conduct their research.

Text understanding and cultural expertise

It is not often that two national poets draw so openly on the literary works of others in the way that Mann and Grass did in these two novels. The stylistic device of literary self-reflection therefore demands of their interpreter not only

a thorough understanding of the text but also knowledge of contemporary history and culture across a large number of literary oeuvres. However, Yelena Etaryan is ideally equipped, both in terms of cultural know-how as well as language skills.

After several research visits, Yelena Etaryan is today also Vice-President of the Armenian Alumni of German-speaking Countries (AADL), which represents all Armenians who have studied in Germany.

Alumni association

“The German language already appealed to me when I was at school, even though English was omnipresent in Armenia at that time. That’s precisely why my mother advised me to swim against the tide and study what I love,” she explains. Etaryan turned her preference for German into a professional occupation at an early stage, for example by teaching German at the university, and says: “It’s fun to see how people progress from ABC to C1.”

Incidentally, the novels had rather meta-literary and not particularly pleasant repercussions for the two German writers: Arnold Schönberg was bitter, since of course it was he and not the tragic hero of the novel “Doctor Faustus” who had invented twelve-tone composition. Mann found himself obliged to set the record straight in later editions. Grass’



Yelena Etaryan was received by Matthias Kiesler, German ambassador in Armenia.

book was even literally torn to shreds on a famous front cover of the news magazine “Der Spiegel” by a grim-faced Marcel Reich-Ranicki, the pope of German literary criticism. This means that yet a further level of literary self-reflection can be derived from these reverberations. But that is another broad field. A.Z.

How bacteria attack a human cell

Düsseldorf biologists study the first 60 minutes of a chlamydial infection

BY ARNE CLAUSSEN

Bacteria of the *Chlamydia* genus trigger severe illnesses in humans. Amongst others, an infection with *Chlamydia trachomatis* is regarded as the main cause of infertility amongst young women in the industrialised world. It is the most prevalent sexually transmitted disease in these countries.

In developing countries, a large percentage of preventable blindness is due to chronic conjunctivitis caused by the same pathogen because hygiene and adequate treatment are lacking there. In addition, there is strong evidence that infections with *Chlamydia pneumoniae* are associated both with various chronic illnesses as well as lung cancer.

Chlamydia uses a special trick to hide from the immune system. It nests inside human cells

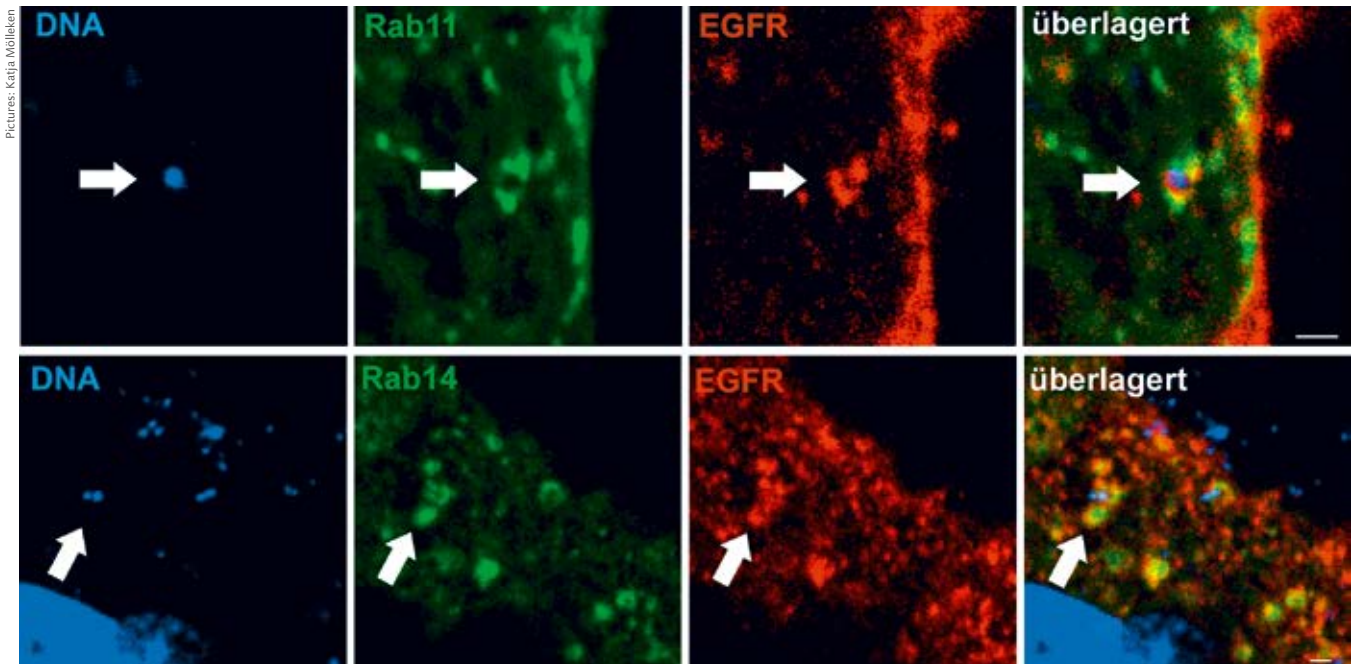
and re-programmes important cellular defence mechanisms to its advantage. In addition, the composition of the *Chlamydia*'s surface proteins, with which it docks onto human cells, changes constantly – the first step to “hijacking” the cell. It is this process, the first 60 minutes of an infection, that Professor Johannes Hegemann at the Institute of Functional Genome Research of Microorganisms and his assistant Dr. Katja Mölleken want to understand more precisely.

The working group purchased a new laser scanning fluorescence microscope with finance from HHU's Strategic Research Fund. The special thing about this device is that it works with four lasers and thus four light sources in different colours. This makes it possible to analyse four proteins at the same time that are each marked with a different dye which reacts to a different



Photo: Jochen Müller

► Dr. Katja Mölleken and Professor Johannes Hegemann shown next to the laser scanning fluorescence microscope. This equipment, the purchase of which was made possible by HHU's Strategic Research Fund, allows precise observation of the early stages of a chlamydial infection.



The picture shows laser microscope images of a *Chlamydia pneumoniae* infection 15 minutes after the bacteria have penetrated the host cell. A blue dye makes both the bacteria's DNA as well as the host cell (on the left in the lower picture) visible. With the help of the EGF receptor (EGFR, coloured red in the picture), *Chlamydia* not only manages to enter the cell but also to envelope itself with it. *Chlamydia* also recruits the two human proteins Rab11 and Rab14 (both coloured green). With them, *Chlamydia* disguises itself in its membrane envelope as part of the cell and thus escapes the cell's defence system.

laser colour. As a result and thanks to the microscope's high spatial and temporal resolution, films on a sub-cellular scale can be produced. An additional incubation chamber, in which living *Chlamydia* can be studied during an infection of human cells, was financed by the Anton Betz Foundation.

Why is it necessary to be able to analyse different proteins at the same time? Dr. Mölleken explains: "If *Chlamydia* penetrates the human cell, the cell attacks it with a whole series of proteins. Which proteins surround the *Chlamydia* bacterium determines its later fate." And it is precisely this interaction and the tasks of the cell's own various proteins that the researchers in Düsseldorf want to understand.

Protein shell

But first things first: If *Chlamydia* with its specific surface proteins has docked onto a certain surface protein in the human cell, this signals to the cell that it should assimilate the *Chlamydia* bacterium. When penetrating the human cell, the bacterium is encased by a membrane envelope

in which it remains inside the cell for the whole time and in which it will also reproduce. This is when *Chlamydia* starts to deceive the cell's defence mechanisms, since normally the cell wants to destroy ("degrade") those intruders that are not beneficial to it or even damage it or else channel them back out again ("release").

Membrane envelope assumes "legal identity"

Chlamydia in its membrane envelope must create a "legal identity" for itself inside the cell, that is, pretend to be one of the cell's own known organelles. The cell bonds different proteins to the membrane envelope that ultimately signal to its defence system what should happen with the membrane envelope (and the *Chlamydia* bacterium contained within it) and what should not. *Chlamydia* systematically influences this protein shell: It only tolerates those proteins outside on the membrane envelope that ensure its survival and removes all other proteins that would trigger, for example, a degradation of the membrane envelope together with the *Chlamydia*

“WHICH PROTEINS SURROUND CHLAMYDIA BACTERIUM DETERMINES ITS LATER FATE.”

Dr. Katja Mölleken, co-author of the study

dia bacterium. Encased in the membrane envelope, Chlamydia wanders in the direction of the cell nucleus where it can reproduce. Within three days, a single Chlamydia bacterium has produced 500 to 1,000 progeny. The human

Reproduction in the cell nucleus

cell then bursts, releasing the new bacteria into the extra-cellular space where they can infect new cells. All these stages together make up the typical three-day propagation cycle of a Chlamydia infection. The biologists in Düsseldorf have now made the exact course of the early

phase of the infection visible with their new microscope. To do so, they marked various surface proteins with dye molecules and were able to show in this way which proteins remained attached to the membrane envelope around the Chlamydia bacterium in the longer term and which ones quickly detached themselves from the envelope again. Professor Hegemann and Dr. Mölleken published the results of their study in the scientific journal “Public Library of Science” (PLOS PATHOGENS) in the summer of 2017.

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Publication

Katja Mölleken, Johannes H. Hegemann, “Acquisition of Rab11 and Rab11-Fip2 – A novel strategy for Chlamydia pneumoniae early survival”, PLOS PATHOGENS, 7 August 2017

Vaccine development

An important objective is the development of vaccines against Chlamydia. Trials with dead bacteria proved to be ineffective, even leading to a far more acute progression of the disease. The method of choice would therefore appear to be a vaccination with isolated surface proteins. The working group led by Professor Hegemann has also made a name for itself in the investigation and production of such surface proteins. These proteins can be produced in the laboratory in large quantities using genetically modified Escherichia coli bacteria (in short E. coli). In the framework of a collaborative project, the proteins are then sent to immunologists in the USA who conduct vaccination tests on animals. At the same time, the researchers at HHU are examining the proteins’ structure and properties.

It has already been possible with these vaccination tests to identify some chlamydial surface proteins as suitable candidates for vaccines. “Unfortunately, the proteins on the Chlamydia’s surface constantly form new complexes,” says Professor Hegemann. “With these complexes, they can still dock onto human cells, but the immune system can no longer recognise them. That’s why we’ll in future also use such protein complexes in the vaccination trials.”

Düsseldorf – A real alternative to London?!

HHU law professor wants to boost commercial law in Düsseldorf

BY CAROLIN GRAPE

At the present time, London is still Europe's most important place of jurisdiction for companies. If Great Britain leaves the EU, English law and thus London too will lose their appeal for important commercial lawsuits. Düsseldorf would have the potential to fill the ensuing gap as a place of jurisdiction. This is the main message of a current initiative led by law professor Rupprecht Podszun, who holds the chair of Civil Law, German and European Competition Law at Heinrich Heine University Düsseldorf, and his research assistant Tristan Rohner.

They are calling for the introduction of special commercial courts at Düsseldorf District Court in order to offer additional options for disputes between companies. In France, Belgium and the Netherlands, plans for new commercial courts are already in place. By so doing, these coun-

Ideally placed for the competition

tries also hope to entice companies away from London. "There has been competition between the courts for large international lawsuits for a long time. If the judiciary in Düsseldorf can

position itself now a bit better in the field of commercial law, lawyers will find it is a real alternative to London," says Professor Podszun.

Already today, North Rhine-Westphalia's capital city is ideally placed to join the competition. Düsseldorf District Court and the Higher Regional Court are renowned throughout Europe for excellent decisions, in particular in the area of patent disputes. Düsseldorf District Court counts as one of the leading courts worldwide. All major law firms have offices in Düsseldorf. Practice-based training at Heinrich Heine University and an excellent study environment guarantee that the University produces well-qualified young lawyers.

What needs to happen exactly?

Podszun is primarily calling for the creation of special courts at Düsseldorf District Court that should bundle similar commercial law cases. Judges must receive top-class training in commercial law issues. They should also be able to manage their cases actively and make use of new methods related to confidentiality and digitalised proceedings. In addition, Düsseldorf's merits must be communicated in a joint feat of strength, proactively and at international level. These are the basic prerequisites for establishing Düsseldorf as a future place of jurisdiction for major commercial lawsuits.

“THERE HAS BEEN COMPETITION BETWEEN THE COURTS FOR LARGE INTERNATIONAL LAWSUITS FOR A LONG TIME.”

Professor Rupprecht Podzun, Chairman of Civil Law,
German and European Competition Law

Only if such proceedings are conducted quickly, efficiently and to a high standard can Düsseldorf attract cases from the whole of Europe.

Judiciary must offer an alternative

The researchers are linking a quite fundamental observation with the idea of a Düsseldorf Commercial Court at Düsseldorf District Court. Rupprecht Podzun: “Nowadays, companies are going less often to a state court. Many large cases are negotiated before what

are known as arbitration tribunals or settled out of court. The judiciary needs to offer an attractive alternative here again, otherwise an important part of society – commerce – will no longer be shaped by state justice. And that would be inopportune in terms of rule of law.”

- ▶ The paper “Staatliche Gerichte für wirtschaftsrechtliche Streitigkeiten stärken. Ein ‘Düsseldorf Commercial Court’ als Antwort auf den Brexit” by Professor Rupprecht Podzun and Tristan Rohner, Law Assessor, can be downloaded from the chair’s website under: www.jura.hhu.de/dozenten/podzun.html



Photo: private

Professor Rupprecht Podzun has held the new Chair of Civil Law, German and European Competition Law at Heinrich Heine University Düsseldorf since October 2016. He is also Director of the Institute for Competition Law (IKartR).

His areas of specialisation include antitrust and competition law, with a particular focus on media and the internet, state involvement in economic activities as well as interfaces to intellectual property rights; he is also conducting research on the principles of private law (“evolutionary legal theory”) and legal issues related to theatre.

Talented losers

Medical historians at HHU analyse who gets the Nobel Prize – and who doesn't

BY VICTORIA MEINSCHÄFER

They are interested first and foremost in those who did not win, in the “talented losers”. Dr. Nils Hansson and Thorsten Halling are researching the history of the Nobel Prize for Physiology or Medicine and taking a special look at those nominees who – at the end of the day – were not awarded the prize. At a German-Swedish symposium last year in Berlin, they discussed the history of the most famous research prize in the world together with other researchers and have now published the results in the conference proceedings.

At first sight, Alfred Nobel's will of 1895 sounds clear: The Nobel Prize for Medicine should go to the person whose

discovery in the preceding year was of the greatest benefit to mankind. Year after year, researchers from all continents are invited to nominate a person who in their view is a suitable candidate – for example all professors of medicine in Scandinavia and Iceland as well as previous laureates. On the basis of the secret list compiled, which nowadays comprises about 400 nominations, the Nobel Committee draws up an equally secret shortlist, from which between one and a maximum of three Nobel Prize laureates are selected. The files are only made accessible to the public 50 years after the prize has been awarded.

Hansson and Halling were hence able to examine the nominations up until the 1960s and discovered that many scholars

had been nominated several times but in the end never been chosen. But according to which pattern did the committee make its decisions? Hansson lists three main areas of specialisation, i.e. topics where nominations were submitted repeatedly.

Going beyond traditional limits

“At the beginning of the 20th century, it was first of all surgery and anaesthesia. New anaesthesia methods allowed new operating techniques and far longer operations. These were especially necessary during and after the First World War because of the large number of war invalids.” In the 1930s, brain surgery became a focal point, a discipline which was deemed spectacular at that time because it went beyond the traditional limits of surgery, explains Hansson. In the 1950s, a further taboo was broken – heart surgery took the world by storm and its pioneers were overwhelmed with nominations. This means that it would be possible to write a story about the respective trends and breakthroughs in medicine by looking at the nominations.

Photo: U.S. National Library of Medicine



Photo: Wikipedia



► Helen B. Taussig and Theodor Mikles Gluck would have been Nils Hansson's and Thorsten Halling's favourites.

How NOT to Win a Nobel Prize in Physiology or Medicine

Hansson N | Halling T | Moll F | Fangerau H



HEINRICH HEINE
UNIVERSITÄT DÜSSELDORF

THE NOBEL PRIZE WORLD
About half of all laureates were born in Europe, and one third in North America.

Only 12 women have to date received the Nobel Prize in physiology or medicine (and 198 men!)



The surgeon Ferdinand Sauerbruch received the German National Prize for Art and Science in 1937, but never the real deal, although he was often nominated.⁵

Themistocles Gluck – allround-scholar way ahead of his time and too old for a Nobel Prize.⁷



Too Visionary...
Gustaf Zander was a strong nominee in 1916, but perhaps too visionary. Below you see two Zander devices around 1900 – today (a bit modified) part of every gym.⁹



...or too Mainstream?
From the 1940s to the 1960s, the number of nominated cardiac surgeons grew rapidly. Because of the strong competition, the Nobel committee meant that it was hard to single out a few individuals as particularly formative in the field.³

Avoid these words in unsuccessful Nobel Prize nominations: World-leading, priority, game-changer, originality, utopia, genius, creativity, groundbreaking, pioneer, revolutionary...¹⁻¹²

START HERE
EUREKA! Congratulations: You've made a unique discovery!
Are you a highly qualified loser?

Did other people consider it useless knowledge (like history of medicine)?¹

NO
YES

You're not born in Europe or North America.

NO
YES

You're a woman (or an old man embroiled in politics).^{2, 3, 4, 5}

NO
YES

Your papers are barely cited since you don't publish in English.⁶

NO
YES

You're more into clinical research than basic research.^{7, 8}

NO
YES

Your desk is always neat and tidy.

NO
YES

Your research is too complex, too visionary, or too mainstream.^{5, 9, 10, 11}

NO
YES

You collaborate with more than two colleagues and have a wide range of scientific interests.¹²

NO
YES

Your peers can't write strong nominations.¹²

NO
YES

YOU TRULY ARE A HIGHLY QUALIFIED LOSER!^{6, 8, 9, 10}
If you experience another eureka moment – return to the first square.

According to Alfred Nobel's will, the prize should go to those who „have conferred the greatest benefit to mankind“



“If a cluttered desk is a sign of a cluttered mind, of what, then, is an empty desk a sign?” (Einstein)



Alexander Fleming, Nobel laureate 1945

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ILLUSTRATIONS: Zander machines (Tekniska museet, Stockholm), Fleming (National Library of Medicine digital collection), Sauerbruch (Deutsche Bundespost), Nobel medal (Getty Images) LAYOUT: Arno Jürgen DESIGN: Kristine Freil, http://fdgn-f.in

“IN TOTAL, ONLY FOUR SURGEONS HAVE RECEIVED THE AWARD FOR THE DEVELOPMENT OF A NEW OPERATING TECHNIQUE. THAT’S DISPROPORTIONATE TO THE COUNTLESS NUMBER OF NOMINATIONS.”

Dr. Nils Hansson, medical historian

What is, however, also conspicuous is that if too many researchers are working on a current topic then the likelihood that one of them will receive the award for this topic is lower. “Where there is a dispute over precedence, the jury avoids making a selection, as our case studies on the Nobel Prize in the fields of gynaecology, ophthalmology and anaesthesia have shown,” says Halling, “and then it’s often the case that none of the nominees gets the prize.”

In addition, the Nobel Prize has tended for many years now to be awarded for basic research rather than clinical research: “In total, only four surgeons have received the award for the development of a new operating technique,” explains Hansson, “that’s disproportionate to the countless number of nominations.” Furthermore, the prizes are nowadays mostly awarded years after the discovery. It is as if the Nobel Committee wants to be sure that the research stands the test. That was still quite different back in 1912 when Alexis Carrel received the award for his research work in the area of organ transplantation. “The problem of rejection continued to prevent successful operations for many decades after-

wards,” explains Hansson, “but the technique had been found.” Hence the Nobel Committee saw in Carrel’s work a vision that it wanted to reward.

Ultimate prize

Now as before, the Nobel Prize is the most prestigious research prize, even if it is not the best endowed. Hansson, who is dealing with Nobel Prize nominations for researchers in the fields of operative medicine in his post-doctoral project “The Enactment of Excellence”, is also examining the aura that surrounds the prize: “It’s partly an open question why the Nobel Prize has been the ultimate research prize for so long,” says Hansson, who is himself a Swede. “One reason is certain: The fact that it was intended from the very outset as an international prize. The prestige definitely also has something to do with the dazzling ceremony that accompanies the awarding of the prize by the King of Sweden.” Hansson also emphasises the point in time when the prize was first donated, which was more or less parallel to the found-

ing of the modern Olympic Games in 1896: “Five Olympic rings, five Nobel Prize categories, an international comparison, a peaceful competition between nations – in 1901 all this matched the spirit of the times and was thus able to establish a tradition.”

And for which of the nominees do the two medical historians feel particularly sorry? Thorsten Halling would have liked to see Rudolf Virchow, the father of pathology, receive the Nobel Prize. But his research work from the 1840s was already too old by the time the Nobel Prize was introduced. He would also have awarded the prize to Themistokles Gluck, who by contrast was ahead of his time. He is considered to be the inventor of prosthetics, but corresponding operations were only carried out much later. Hansson’s favourite is American doctor Helen B. Taussig, who in the middle of the 20th century was one of the few female physicians to be shortlisted by the Nobel Committee. Her achievement was the “Blalock-Taussig-Shunt” for treating the blue baby syndrome, a severe congenital heart defect. Women continue up until today to be underrepresented amongst the prize-winners. They too are “talented losers”.

HEINRICH HEINE ECONOMICS PROFESSORSHIP

Digitalisation, innovation and sustainability: Transforming the chemical industry

BY CAROLIN GRAPE

On 6 December 2017, students and staff of Heinrich Heine University were able to experience top German manager Dr. Kurt Bock, Chairman of the Board of Executive Directors of BASF SE and President of the German Chemical Industry Association (VCI), live at the University. In the framework of the Heinrich Heine Economics Professorship, he held the first of his two public lectures in Auditorium 3D, which was packed to the door. He spoke in the first instance about the challenges and trends on which the chemical and pharmaceutical industry is currently focusing.

In his introduction, Bock outlined the status quo and emphasised the sector's economic importance: Amongst all sectors, the chemical sector occupies a top position with regard to turnover, investment as well as research and development – in an international comparison too. In 2014, it ranked third worldwide after the USA and China.

With a turnover of about € 195 billion (2017), in Europe it ranked first by a long margin. Capacity utilisation in the sector's production facilities is high, he said. Exports are profiting from demand from China, the revival of the US-American economy and economic stabilisation in emerging countries. With a workforce of 451,500 people, the upturn in Germany's third largest sector is contributing to the highest employment rate for thirteen years, he said.

No resting on laurels

"Germany is doing well and our chemical industry is successful too. With our products and innovations we are making a major contribution to economic success. But we should not rest on our laurels," said Bock. The chemical and pharmaceutical industry is undergoing pro-

Photo: Wilfried Meyer



► Interest was great. In Auditorium 3D Kurt Bock spoke to a packed room about the challenges currently facing the chemical industry and innovations for a sustainable future.

Photo: Alexander Schneider



◀ Kurt Bock took time to discuss with the audience. Professor Justus Haucap, HHU Dean, chaired the Q&A session.

found upheaval: The globalisation and digitalisation of value chains are changing production and business models across sectoral boundaries, he said. Moreover, the political goal of a circular economy in the EU and the vision of a carbon-neutral economy worldwide require a sustainable chemistry concept 4.0. This combines preventive environment and health protection with an innovative economic strategy that at the same time leads to more employment.

Publicise progress

“The control of production facilities by means of predictive maintenance or logistics with RFID chips as well as the pinpointed use of herbicides and fertilisers through digital farming are examples of applications where digitalised information is already being used in the chemical industry to enhance cost and resource efficiency,” said Bock and continued, “We interpret Chemistry 4.0 as more than just using the opportunities offered by digitalisation: Sustainability is becoming the key mission and vision for the sector’s activities. In the framework of our Chemie3 sus-

tainability initiative, we will in future use 40 indicators to publicise our sector’s progress.” These indicators comprise economic, ecological and social criteria. They range from the competitiveness of the chemical industry in the global marketplace to greenhouse gas emissions to the retention rate of apprentices. However, not only companies are called on to support sustainable development by creating better overall conditions but politics too, above all in the areas of energy policy, research funding and further development of infrastructure.

No increases in electricity prices

That is why Bock finds the difficulty in forming a new government in Berlin so regrettable: “It is unsatisfactory that politics have not been able so far to agree on a joint plan for safeguarding Germany’s future and modernising society.” And on behalf of all energy-intensive industries in Germany he warned against political concepts that lead to further increases in electricity prices and endanger security of supply: He views a na-

Heinrich Heine Economics Professorship
With the support of the Dr. Jost Henkel Foundation, HHU set up the “Heinrich Heine Economics Professorship” in 2011 in acknowledgement of outstanding personalities from science and practice who adopt a clear position on current economic policy topics.

“WE INTERPRET CHEMISTRY 4.0 AS MORE THAN JUST USING THE OPPORTUNITIES OFFERED BY DIGITALISATION.”

Dr. Kurt Bock, Chairman of the Board of Executive Directors of BASF SE

tional CO2 tax or an over-hasty withdrawal from coal-fired power generation very critically. Germany’s climate protection policy should instead concentrate on sectors outside EU emissions trading. He stressed: “National regulations in addition to EU emissions trading would only mean double regulations without any benefit for climate protection.”

Legally compliant regulations

With regard to Germany’s capacity for innovation, he spoke in favour of both more project funding as well as the introduction of tax-based research funding. Politics must do more to liberalise trade and define international rules, he said, as well as paying attention to legally compliant regulations: “European industry needs a more efficient EU that sets targets but remains open for innovative solutions as far as their achievement is concerned.”

After 45 minutes, Kurt Bock brought his lecture to a close with these clear messages and then took the time for a Q&A session. His lecture met with much applause from the audience. Dr. Kurt Bock will give his second public lecture on 25 April 2018, following a seminar with students and early career researchers.

Kurt Bock, born on 3 July 1958 in Rahden/ Eastern Westphalia, studied business administration in Münster and Cologne as well as at Pennsylvania State University (USA). In 1985, Bock joined the Finance Division at BASF. In 1992, he moved to automotive supplier and electronics group Robert Bosch, where he held several management positions in Germany and Brazil up until 1998. Bock returned to BASF where he became Chief Financial Officer of its US-American subsidiary in 1998 and President of the Logistics and Information Services Division of the BASF parent company in 2000. In 2003, he became a member of the executive board of BASF AG, responsible for the Finance Division. In 2007, he was additionally appointed as Chairman and CEO of BASF Corporation, New Jersey, USA. He has been Chairman of the Board of Executive Directors of BASF SE since 6 May 2011. Dr. Kurt Bock is also active in many other areas, for example as Chairman of the Executive Board of the European Chemical Industry Council since 2012 and since 2016 as President of the German Chemical Industry Association.



University House

University House was placed at the disposal of Heinrich Heine University by the van Meeteren Foundation. Its purpose is to provide information and advice as well as foster an exchange between science, culture and education. In the framework of a large spectrum of events, the University offers local citizens the possibility to experience here cutting-edge research as well as its results and shares university life with the city.

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