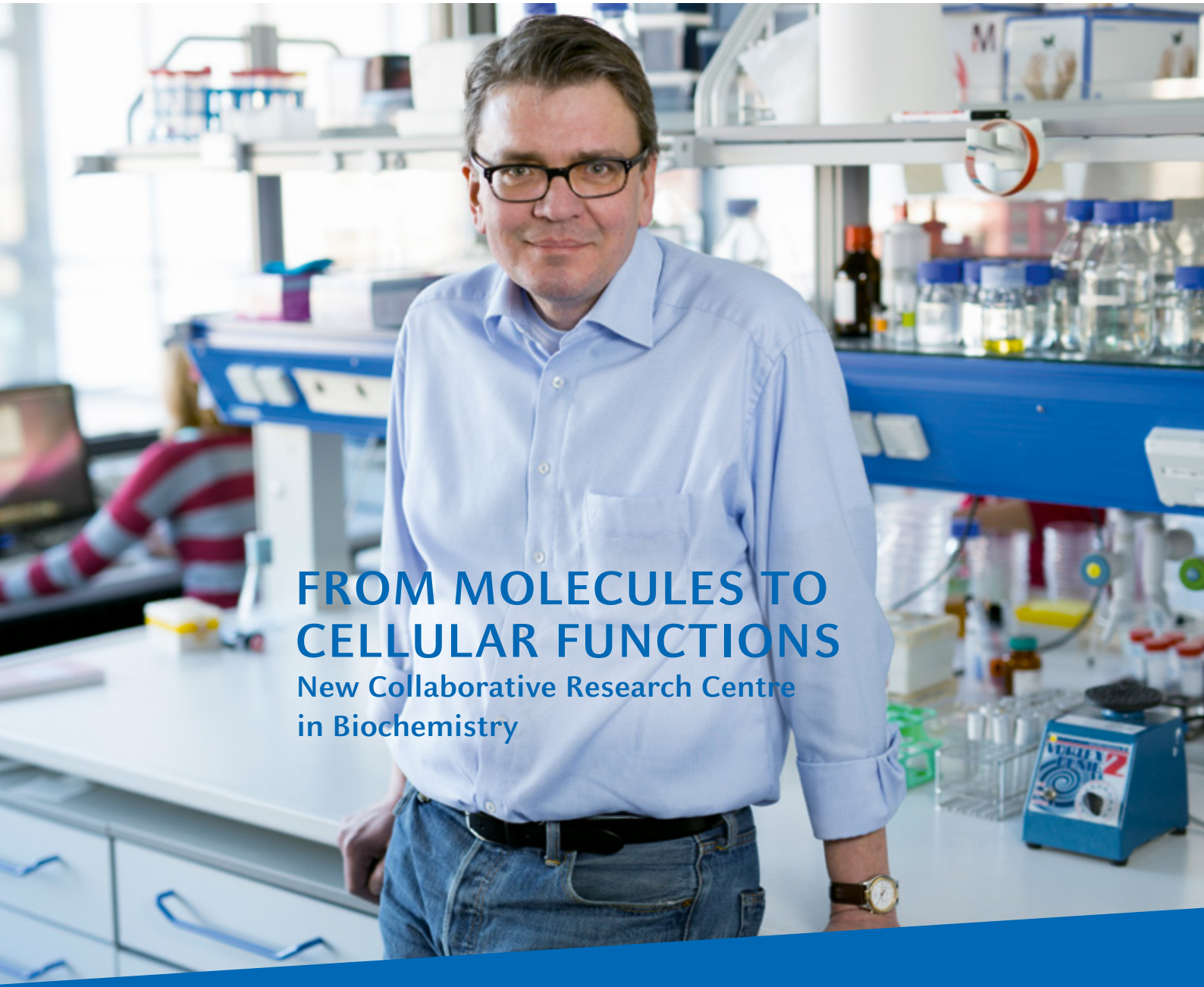
ISSUE 01 | SPRING 2016

HEINRICH HEINE
UNIVERSITÄT DÜSSELDORF

MAGAZINE

OF HEINRICH HEINE UNIVERSITY DÜSSELDORF



FROM MOLECULES TO CELLULAR FUNCTIONS

New Collaborative Research Centre in Biochemistry

Photo: Ivo Mayr

Photo: Jochen Müller

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:
Ivo Mayr

Layout and typesetting:
zweizueins GbR, www.zweizueins.net

Editorial team:
Rolf Willhardt (head), Dr. Victoria Meinschäfer, Susanne Dopheide

Editorial assistance:
Sabine Brenner-Wilczek, Carolin Grape, Ivo Mayr, Jochen Müller, Georg Pretzler, Ellen Barbara Reitz

Translation:
Sharon Oranski, www.oranski.de

Reprinting of articles only with editor's permission.

Editorial


Photo: Hanne Horn

Dear Reader

I am very pleased to be able to present to you what is now the fourth issue of our HHU Magazine with exciting reports on current projects and developments at Heinrich Heine University. Over the past months, a number of events took place at HHU which have contributed to advancing our University's international profile. I would like to tell you briefly about them:

From the 29th of February to the 2nd of March 2016, the Network Meeting of the Alexander von Humboldt Foundation (AvH) took place at Heinrich Heine University and Düsseldorf was host to around 200 young researchers from over 40 countries. The scholars are currently fellows of the foundation in Germany and working at German research institutions. The purpose of the event was to allow the new "Humboldtians" to get to know both each other as well as Düsseldorf – as a good example of Germany as a centre of research. Seven AvH visiting scholars from seven countries are currently conducting research at HHU.

Another issue which has kept us very busy lately is the refugees and their integration in our society. In the 2016 summer semester too, we are opening up courses in all faculties to make it easier for refugees with an interest in studying to pursue a regular study programme at a later stage. These are, in the first instance, introductory or 'taster' courses. In addition, the departments at Heinrich Heine University as well as their syllabuses and admission requirements are being presented in a series of lectures in English. There is also the possibility for refugees interested in university studies to be accompanied by a buddy during the taster courses in the framework of our new Mate-for-Refugees programme. Special intensive language courses in German and an accompanying tutorial help participants to acquire sufficient language skills to start university studies. We hope that with this programme we will make the start here in Germany easier for the refugees, give them a perspective for the future and facilitate their integration in our society.

You can read all about what's been happening in the faculties and the research units over the past months on the following pages of our HHU Magazine. Topics range from mice and chimpanzees to membrane biology and a spectacular laser experiment!

I wish you an enjoyable read and all of us continued productive cooperation at international level!

Yours sincerely

Professor Andrea von Hülsen-Esch
Vice-President for International Relations

Email: Prorektorin.Internationales@hhu.de

Language is the first step

"German as a Foreign Language": Courses for refugees

Syria is losing its intellectual elite. In December 2015, the Refugee Agency of the United Nations (UNHCR) presented the result of a survey amongst asylum seekers: In particular better educated people are fleeing from Syria to Europe, 86 percent hold a university entrance qualification or a degree. Two of them have been living since September in Düsseldorf and are attending a language course on the campus.

BY ROLF WILLHARDT

Both are from Aleppo, the metropolis in the north of Syria steeped in history and meanwhile almost completely destroyed and a scene of fierce fighting. Nadia Nassani is 35 years old and a translator for English; Anas Antifa (29) worked as an assistant teacher and studied English Literary Studies at the University of Aleppo. The Syrian university, founded in 1958 and rich in tradition, had over 60.000 students before the start of the civil war in 2011. Today it lies in ruins.

Antifa, who says that he was imprisoned on the grounds of his political conviction, and Nassani both came to Germany via Turkey. In a completely overloaded rubber dinghy – the crossing cost $ 1.200 per head – they reached the small harbour town of Mytilini on the Greek island of Lesbos, the entry point to Europe for most refugees from the Middle East. From there the journey continued, first by ferry to Athens and then by bus to Macedonia, Slovenia, Croatia. In Vienna they boarded the train for Germany.

> The flight lasted 15 days

Their flight lasted 15 days. "Fortunately for us, some of the bus journeys were organized by the Red Cross and we didn't have to pay", says Nadia Nassani. "In the end it cost me € 400." Less lucky refugees had paid at least € 1.000 or more.

Now they are living in Düsseldorf, Anas Antifa found a place first of all in provisional mass accommodation in a trade exhibition hall, Nadia Nassani lives in a container in Benrath, a suburb of Düsseldorf. Both want to stay in Germany. A campaign by HHU's Students' Union drew their attention to the language courses. The Students' Union publicized the courses in refugees' accommodation and also selected the participants, which means that potential candidates had to produce evidence

North Rhine-Westphalia: Foreign roots

Almost every fourth citizen in NRW has foreign roots. As the NRW Statistical Office reported on the 17th of December 2015 in Düsseldorf, in 2015 23.6 percent of NRW's some 17.6 million inhabitants had a migrant background. With 35 percent, Wuppertal had the highest ratio of immigrants, in the District of Coesfeld and Münsterland the ratio was just 10.7 percent.

Every fifth immigrant had a Turkish background (21 percent), followed by immigrants of Polish (13.6 percent) or Russian (8 percent) extraction.

that they have already studied at a university or are qualified to do so.

The 15 participants in each language course are mostly from Syria, but there are also refugees from Eritrea, Nigeria and Iraq. The courses take place in a group room in the Student Services Center and a room in the Faculty of Arts and Humanities. They are run by Elke Faust, M.A., Islam expert and lecturer in "German as a Foreign Language", which is part of the Student Academy. Elke Faust also speaks Arabic.

Two courses are offered at HHU, each takes place once a week on Thursday or Friday for four hours from 9:00 a.m. onwards. Antifa and Nassani hope that in about eight months or so they will have learnt enough German to pass one of the coveted language tests (e.g. TestDaF, DSH, TELC). Antifa would like to continue his studies and take his degree, whilst Nassani's goal is to work in Germany as a translator for German and Arabic or English and Arabic. And then, of course, to be reunited with her family, as she is married and has a three-year-old daughter. Her husband studied Law and is, in fact, a lawyer, "but the professional prospects and earning opportunities in Syria are catastrophic", she reports. Father and daughter are currently in Turkey, her husband has a job "as a salesman". She wants to fetch her family as quickly as possible as soon as she has her residence permit for Germany.

> The aim is to pass the language test

Antifa and Nassani are both very optimistic with regard to their German language proficiency. They recently started attending an additional course which takes place daily. "Maybe we will do our next interview in German", says Nassani.

"FORTUNATELY FOR US, SOME OF THE BUS JOURNEYS WERE ORGANIZED BY THE RED CROSS AND WE DIDN'T HAVE TO PAY." Nadia Nassani

Photo: Ellen Barbara Reitz

Nadia Nassani (35) and Anas Antifa (29) both came to Germany from Syria in September 2015. On the right is language teacher Elke Faust.

Düsseldorf mice and Japanese chimpanzees

Cooperation: Early career researchers from Japan and Germany

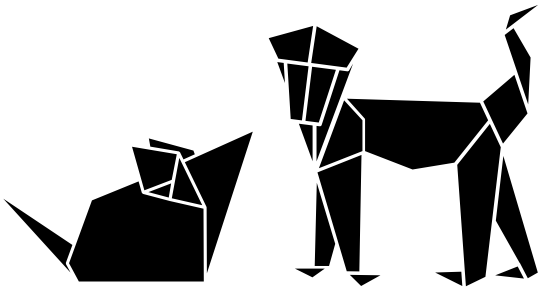


Illustration: istockphoto.com/Leporello-cz

BY ROLF WILLHARDT

Can the "Düsseldorf Mouse Model" be transferred to Japanese experiments with chimpanzees? That's the leading question at the heart of a cooperation project between HHU doctoral researcher Felix Beyer (MSc) and his Japanese partner Ryunosuke Kitajima from the University of Kyoto. Both are undertaking research work in the framework of the German-Japanese "Young Glia" programme, both met in January at a conference in Tokyo, at which early career researchers sounded out cooperation possibilities in the field of brain research.

"Young Glia" is funded on the German side from SPP 1757 (short title "Glial Heterogeneity"), a Priority Programme of the German Research Foundation (DFG – Deutsche Forschungsgemeinschaft) and in Japan by the "Glial Assembly" programme. Dr. Christine Rose (Chair of Neurobiology, HHU) is co-responsible for project coordination in Germany and Professor Dr. Kazuhiro Ikenaka (National Institute for Physiological Sciences, Okazaki) in Japan.

Three early career researchers from Düsseldorf participated in the German-Japanese meeting of young brain specialists: Doctoral researcher Felix Beyer, MSc, member of the "Translational Glial Cell Research" working group of Professor Dr. Patrick Küry (Neurology), Dr. Stephanie Griemsmann (Neurophysiology and Sensory Physiology, Professor Dr. Nikolaj Klöcker) and Dr. Rodrigo Lerchundi (Neurobiology, Professor Dr. Christine Rose). The three young Germans were accompanied by three senior scientists, including neurobiologist Professor Dr. Rose.

Potential cooperation partners

How did the potential cooperation partners find each other? "We all had posters with us on which our research projects were presented", reports Felix Beyer (28). "We soon got talking. We simply asked about problems and looked for potential solutions. Where are there interfaces? Where do we complement each other? Then we got together and drafted an application for a joint project." This then had to be explained and discussed in the shape of a short presentation in front of a committee.

All three Düsseldorf representatives in the "Young Glia" programme were successful with their applications

"WE SIMPLY ASKED ABOUT PROBLEMS AND LOOKED FOR POTENTIAL SOLUTIONS. WHERE ARE THERE INTERFACES? WHERE DO WE COMPLEMENT EACH OTHER?"

Felix Beyer (MSc), doctoral researcher

and received a "Platinum Award": For two years they will receive funding to the tune of two million yen, or about € 15.000. The money is intended primarily for travel and accommodation costs, since the researchers are expected to work in the other country too. Felix Beyer, for example, flew to Tokyo for two weeks in March to work together with Ryunosuke Kitajima on their joint project.

Both are performing research work on and into stem cells: Beyer on the "Mouse Model" (neural stem cells of the mouse), his partner on the brain stem cells of chimpanzees, which can be generated by the transformation of skin cells. Beyer and Kitajima's goal is to modulate them in neural stem cells in such a way that they develop into a specific type of brain cell which is important in the regeneration of numerous neurological diseases, such as multiple sclerosis. The Düsseldorf researchers' findings in this area could deliver a solution.

Research on and into stem cells

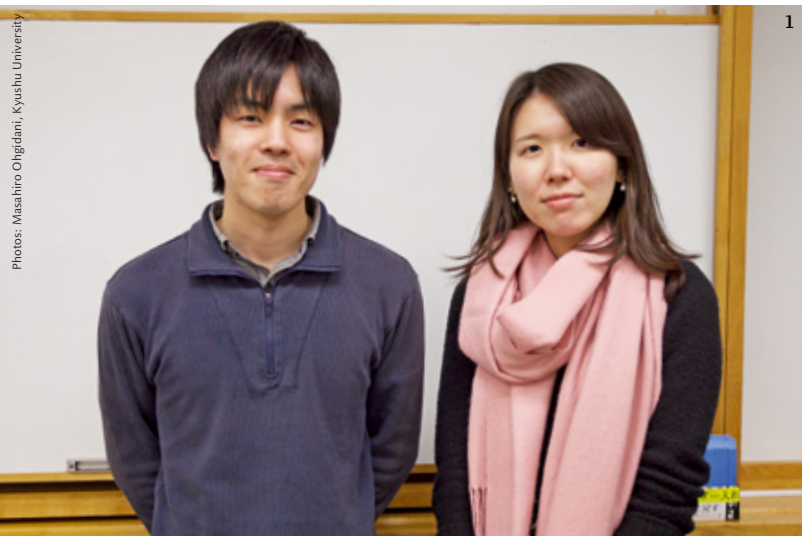
Felix Beyer is, in any case, highly optimistic. Ryunosuke Kitajima will visit HHU before the end of this year.

Further information can be found under: www.ims.med.tohoku.ac.jp/youngglia/

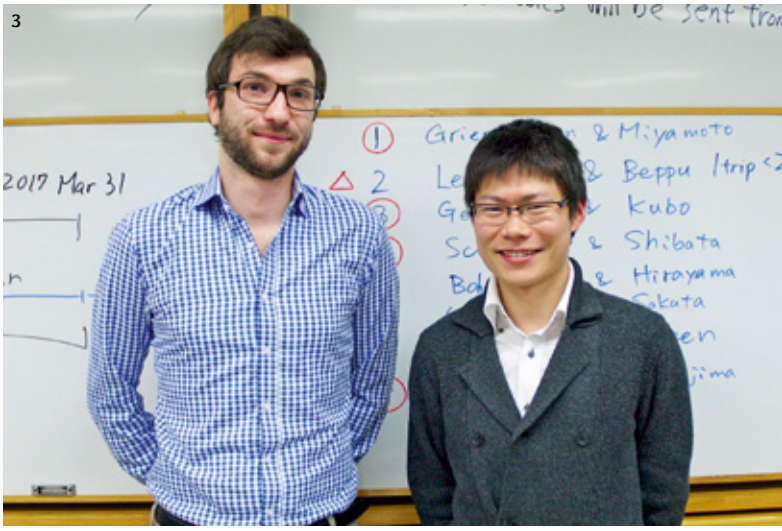
1: Naoko Kubo and Yuki Suhara came to Professor Dr. Christine Rose (Neurobiology) in February and worked at HHU with Niklas Gerkau (MSc) and Behrouz Moshrefi-Ravasdjani (MSc).

2: Dr. Rodrigo Lerchundi (Neurobiology). His Japanese partner Dr. Kaoru Beppu will come to Düsseldorf before the end of the year. New signals for the linking of metabolism processes in the brain have recently been discovered. To understand better these signals, their artificial control in various brain cells is required. Collaboration between the partners is targeted at the linking of two optical technologies in order to manipulate these signals and examine their mechanism of action.

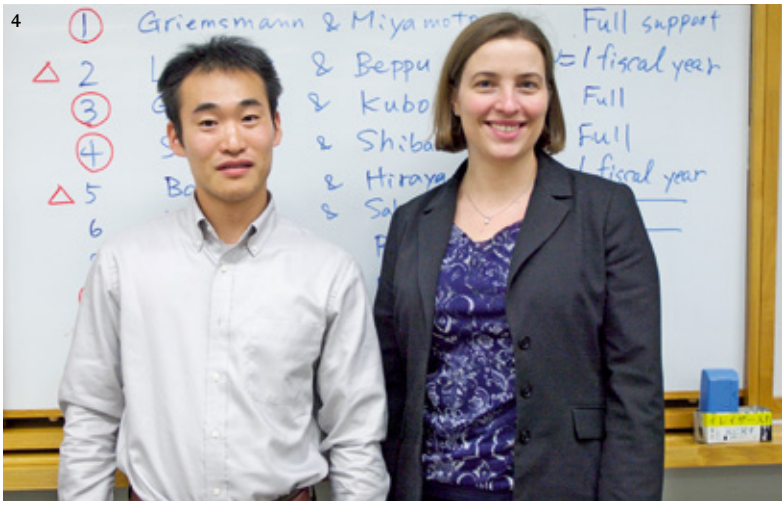
Photos: Masahiro Ohgidani, Kyushu University


1


2



3



4

3: Felix Beyer and his Japanese partner Ryunosuke Kitajima. Their joint project on stem cell research will receive funding of € 15.000 over two years in the framework of the "Young Glia" programme.

4: Dr. Stephanie Griemsmann and her partner Dr. Akitoshi Miyamoto. Their project: "Analysis of sub-cellular localization of glutamate receptors in glial cells". Glutamate receptors are essential for communication by nerve cells in the human and mammal brain. These receptors are, however, also found in the cell membrane of other cells in the brain, the glial cells. Little is so far known about the function of the receptors in glial cells. In the framework of this German-Japanese collaboration, the partners want to learn more about the localization of glutamate receptors in the membrane of glial cells and study the receptors' movement, using high-resolution microscopy.

How does communication in and between cells work?

German Research Foundation (DFG) funds new Collaborative Research Centre on membrane biology

The German Research Foundation (DFG) has awarded Heinrich Heine University a new Collaborative Research Centre. CRC 1208 – "Identity and Dynamics of Membrane Systems – from Molecules to Cellular Functions" – will receive € 9.7 million in funding over four years. The CRC's spokesperson is Professor Dr. Lutz Schmitt (48), Biochemistry I.

BY ROLF WILLHARDT

Overall, according to Schmitt, there are 18 Research Units in the new CRC, two Central Projects as well as an Integrated Research Training Group. "From experience, most DFG funds at our University – like elsewhere – are invested in jobs. There are 31 doctoral researchers and two post-docs". The groups have their own laboratories, "research work is performed in the facilities of the respective project groups involved. And these are from chemistry, biology, pharmacy and medicine". If funds are spent on equipment, then these must be related 100 % to the project. They are not intended for the financing of basic apparatus, which must be provided by the University.

It is down to Schmitt as CRC spokesperson to decide which new projects should be set up and which existing ones should continue. All activities in the new CRC revolve around membrane biology, a special area of research which did not previously exist at the Faculty of Mathematics and Natural Sciences.

How do you get a CRC, "a flagship of DFG funding", as Schmitt calls it? "First there is a pre-proposal and preliminary discussions with six evaluators at DFG's head office in Bonn", he explains. "The rejection rate following these discussions is between 40 and 70 percent." The Review Board then decides which projects are invited to submit a full proposal. The board meets in May and November. The full proposal and a site visit follow. This important site visit at HHU took place in September 2015 and 15 evaluators spent over two days at the University. "The failure rate for full proposals submitted to the DFG is between 20 and 40 percent." In its autumn 2015 meeting, the DFG approved a total of 16 new Collaborative Research Centres. In general, each one was allocated funding to the tune of € 10 million. About 30 percent of the DFG's budget is designated for the funding of Collaborative Research Centres.

There are currently four CRCs at Heinrich Heine University

There are currently four CRCs at Heinrich Heine University: In addition to the new CRC 1208 "Identity and Dynamics of Membrane Systems", these are CRC 1116 "Master Switches in Cardiac Ischemia" (Professor Dr. Jens Fischer, Institute

"THE MAIN QUESTION IS: HOW DO CELLS 'TALK'? WE WANT TO UNDERSTAND COMMUNICATION WITHIN AND BETWEEN CELLS."

Professor Dr. Lutz Schmitt, CRC spokesperson

Photo: Ivo Mayr

1

1: 18 Research Units involved, funding for 31 doctoral researchers

of Pharmacology and Clinical Pharmacology), CRC 974 "Communication and Systemic Impact in Liver Damage and Regeneration" (Professor Dr. Dieter Häussinger, Department of Gastroenterology, Hepatology and Infectious Diseases) and CRC 991 "The Structure of Representations in Language, Cognition and Science" (Professor Dr. Laura Kallmeyer, Computational Linguistics). In addition, HHU is also spokesperson for Transregio 18 "Relativistic Laser Plasma Dynamics" (Professor Dr. Oswald Willi, Laboratory of Laser and Plasma Physics).

Three years' lead time till funding was approved

The actual lead time for HHU's new CRC? "It was three years until funding was approved", recalls Schmitt. "First of all, the disciplines involved had to find a joint topic. There was a kind of 'inner circle' which developed ideas." This included Professor Dr. Karl-Erich Jaeger (Molecular Enzyme Technology), Professor Dr. Andreas Weber (Plant Biochemistry), Professor Dr. Peter Westhoff (Developmental and Molecular Biology of Plants), Professor Dr. Petra Bauer (Botany), Professor Dr. Holger Gohlke (Pharmaceutical and Medical Chemistry) and, of course, Schmitt himself. "It was a discussion which continued over two years." The result: A 400-page proposal to the DFG in English, which also included detailed descriptions of the individual projects.

400-page proposal to the DFG

In a nutshell, what's CRC 1208 about? Schmitt: "The main question is: How do cells 'talk'? We want to understand communication within and between cells. After all, how biological membranes contribute to making life 'work' is a fundamental process."

And what's the CRC's current status? "Right now we are in the process of selecting doctoral researchers and setting up both scientific and day-to-day infrastructures so that our own communication works. And we are, of course, starting our research work at the same time", says Schmitt.

▸ **Contact:** Professor Dr. Lutz Schmitt, Heinrich Heine University Düsseldorf, Biochemistry I, Tel. 0211 81-10773, Lutz.Schmitt@hhu.de

Photos: Ivo Mayr

Vita Professor Dr. Lutz Schmitt

Professor Dr. Lutz Schmitt was born in 1967 in Rheinfelden (Baden-Württemberg). He studied Chemistry at the University of Freiburg. Following his diploma, he moved to the Chair of Biophysics at the Technical University of Munich, where in 1996 he completed his doctorate with distinction (summa cum laude). The topic was the production of novel lipid systems for the specific bio-functionalization of self-assembled interfaces. Post-doctoral studies at Stanford University in the USA followed up until 1999, sponsored by the German Research Foundation.

He then returned to Germany and worked from 1999 onwards in the framework of the DFG-funded Emmy Noether Programme as head of a Junior Research Group, first at the University of Marburg and then, from 2001 onwards, at the Institute of Biochemistry at Goethe University Frankfurt. In 2004, he was awarded a Heisenberg grant by the DFG. He was called to the chair by Heinrich Heine University at the end of 2004, where since 2008 he has led Biochemistry I. Schmitt is Head of the Membrane Transport Group. From 2009 to 2014, Schmitt was Vice-President of Research and Innovation at the University.

In the 2008/2009 winter semester, he received the prize awarded for the first time and funded from students' tuition fees as "Most Popular HHU Professor". The prize money of € 15.000 was, however, earmarked for improving equipment at the University.

From 2008 to 2013, Professor Dr. Lutz Schmitt was spokesperson together with Professor Dr. Dieter Willbold of the BioStruct NRW Research School and he is a member of the German Chemical Society (GDCh – Gesellschaft Deutscher Chemiker) as well as the Society for Biochemistry and Molecular Biology (GBM – Gesellschaft für Biochemie und Molekularbiologie).

His research work focuses on the structure and function of ABC transporters, the investigation of protein-protein interactions as well as research on recognition processes in membranes. Dr. Lutz Schmitt is married and has two children.

CRCs in series: Unique in Germany

Collaborative Research Centre on liver research funded for a further four years

BY ROLF WILLHARDT

Professor Dr. Dieter Häussinger, spokesperson of Collaborative Research Centre 974, was naturally more than delighted when he learnt of the DFG's decision to continue funding his CRC: "This means that at the end of the funding period now approved we will have achieved 20 years of continuous liver research in the framework of CRCs in Düsseldorf. That makes us very proud. And such continuity – two CRCs in series, so to speak, is surely unique in Germany."

For in 2011, CRC 974 followed on "seamlessly" from CRC 575 "Experimental Hepatology", of which Professor Häussinger was also the spokesperson and which ran from 2000 to 2011. Funding for the coming phase is impressive: For the next four years, Häussinger and his research teams will receive almost € 13 million. The money will be invested in equipment, "but mostly in personnel, about € 6.7 million. We will use it, for example, to finance 24 jobs for doctoral researchers and nine post-docs. We can create a total of 43 jobs with DFG funds." About 80 researchers overall will then be working in the CRC's 19 working groups.

> 43 jobs financed from DFG funding

These researchers are not just based in the Department of Gastroenterology, Hepatology and Infectious Diseases in the Clinic for Medicine, Neurology and Radiology. The actual research Centre 575 "Experimental Hepatology" (2000–2011) and Collaborative Research Centre 974 "Communication and Systemic Impact in Liver Damage and Regeneration" approved in 2011, a Clinical Research Unit (217 "Cholestatic Liver Diseases") of the German Research Foundation and several research groups in the field of infectious diseases are based at his clinic, as well as the Clinical Cholestasis Laboratory, the transregional Centre for Liver and Infectious Diseases (LIZ – Leber- und Infektionszentrum) and the W. Hirsch Institute of Tropical Medicine at Arsi University in Ethiopia.

From 2000 to 2006, Professor Häussinger was a member of the Medical Board of Germany's Scientific Council (Wissenschaftsrat) and since 2010 he has been a member of the Senate of the Leibniz Association. Furthermore, he is a member of the German National Academy of Sciences (Leopoldina Nationale Akademie der Wissenschaften) and Vice-President of the North Rhine-Westphalian Academy of Sciences, Humanities and the Arts (Nordrhein-Westfälische Akademie der Wissenschaften und der Künste). In 2012, Häussinger was awarded the Order of Merit of the Federal Republic of Germany by Hannelore Kraft, NRW's Minister President. R.W.

Vita Professor Dr. Dieter Häussinger

Professor Dr. Dieter Häussinger, born 1951 in Nördlingen (Swabia, Bavaria), studied Medicine from 1970 to 1976 at Ludwig Maximilian University of Munich. He completed his doctorate there in 1976 and attained his post-doctoral teaching qualification (Habilitation) in 1984. He worked at Freiburg University Hospital from 1979 to 1994 and was appointed as adjunct professor at the University of Freiburg in 1988. From 1991 to 1994, he held a Schilling professorship of the Association of Benefactors for the Promotion of the Sciences in Germany (Stifterverband für die Deutsche Wissenschaft). He has been Professor of Internal Medicine and Director of the Department of Gastroenterology, Hepatology and Infectious Diseases of Düsseldorf University Hospital since 1994.

In 1991, Professor Häussinger was awarded the Leibniz Prize of the German Research Foundation (DFG – Deutsche Forschungsgemeinschaft), the highest scientific award in Germany. He is regarded as an internationally renowned hepatologist, who has initiated a large number of high-ranking research projects and partnerships. He also expanded the Infectious Diseases Department at Düsseldorf University Hospital, a well-established address for severely ill patients. In addition to his role as spokesperson for Collaborative Re-

Photo: Ivo Mayr

Professor Dr. Dieter Häussinger, Professor of Internal Medicine and Director of the Department of Gastroenterology, Hepatology and Infectious Diseases, is spokesperson of CRC "Communication and Systemic Impact in Liver Disease and Regeneration", which is being funded by the DFG for a further four years.

"AND SUCH CONTINUITY – TWO CRCS IN SERIES, SO TO SPEAK, IS SURELY UNIQUE IN GERMANY AND MAKES US VERY PROUD." **Professor Dr. Dieter Häussinger, CRC 974 spokesperson**

search laboratories themselves are located across the campus. "Experimental Hepatology", for example, is housed on several floors in Building 23.12. Incidentally, there are plans for a new building in the grounds of Düsseldorf University Hospital, "right next to our liver centre", reports Häussinger.

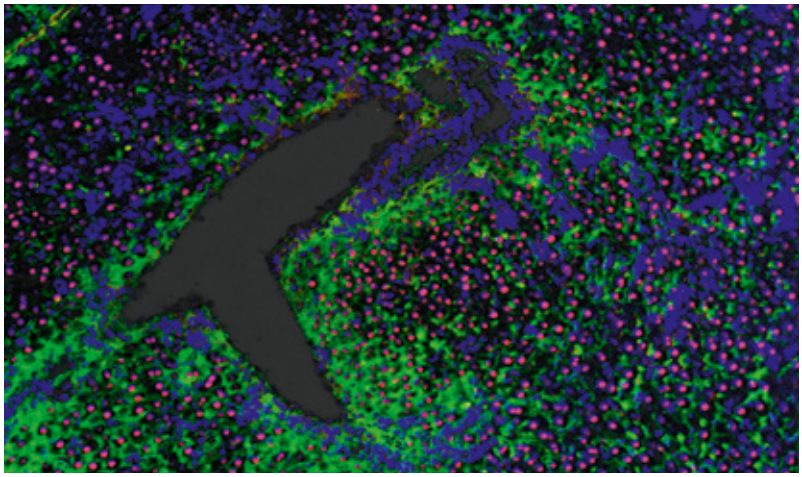


Photo: Medienzentrale UKD

Liver regeneration from transplanted hepatic stellate cells (fluorescent green)

Hepatic encephalopathy

One of the CRC's priorities was and is research into hepatic encephalopathy, a brain malfunction caused by insufficient detoxification of the liver. The researchers in Düsseldorf are regarded as global leaders in this field of investigation. They have even developed a diagnostic procedure and had it patented under the name of HEPAtonorm Analyzer™. HE-Flicker Diagnostics GbR, the company founded for this purpose, has introduced the appliance into the market as licensor. They are currently working on a new patent related to tauroursodeoxycholic acid (bear bile), an active ingredient often used in liver diseases and which improves treatment. The fact that it helps was already know, but Häussinger's team succeeded in proving the mechanism of action. "This is research which directly benefits the patient", says Clinic Director and CRC spokesperson Häussinger.

CRC 974 "Communication and Systemic Impact in Liver Damage and Regeneration"

To secure its vital function, the liver has a particularly pronounced capacity for regeneration. This complex process, which to date is still not completely understood, hides enormous potential for treatment and therapy.

Amongst other findings, a new hepatic stem cell was identified and its differentiation to hepatic and bile duct cells proven within work undertaken so far in Collaborative Research Centre 974. In addition, the molecular mechanism of action of tauroursodeoxycholic acid, one of the most common liver drugs, as well as new immunological defence mechanisms in virus infections of the liver were discovered. The course of most liver diseases is chronic and the activity of other organs is influenced by such impaired liver function.

An example of such a manifestation outside the liver is hepatic encephalopathy, a malfunction of the brain which often occurs as a result of liver cirrhosis. Explaining the mechanisms which lead to such a malfunction is also one of the central issues being tackled in CRC 974. S. D.

▸ **Contact:** Professor Dr. Dieter Häussinger, Director of the Department of Gastroenterology, Hepatology and Infectious Diseases, Düsseldorf University Hospital, Tel. 0211 81-16330

“I think a lot and work a little”

The law student Heinrich Heine

Illustration: Ralf Schmitzer from The Noun Project

BY SABINE BRENNER-WILCZEK

In Heine’s literarily embellished recollections of his youth, his father, in whose “soul was constant circus”, stands for lightheartedness and joie-de-vivre, whilst his mother, by contrast, embodies willpower and morals. Betty Heine is committed to the family’s reputation in society and in particular to the children’s professional advancement, and therefore invests a lot of energy in raising them strictly: “My mother, however, had great ambitions for me and all her plans for my upbringing were channelled in this direction. She mapped out the programme of all my studies and endeavoured to start with my education even before I was born.”

Betty Heine wants a career in business for her son and then, after her husband Samson’s commercial undertakings and the Harry Heine & Comp. store in Hamburg have burst like “mercantile soap bubbles”, a legal career, as Heine reports in his “memoirs”: “Since the new University of Bonn had just been established, where the Faculty of Jurisprudence was run by the most renowned professors, my mother immediately sent me to Bonn, where I soon sat at the feet of Mackeldey and Welker and sipped the manna of their knowledge … It was namely her greatest fear at that time that I might want to become a poet; that would be the worst thing, she always said, which could happen to me.”

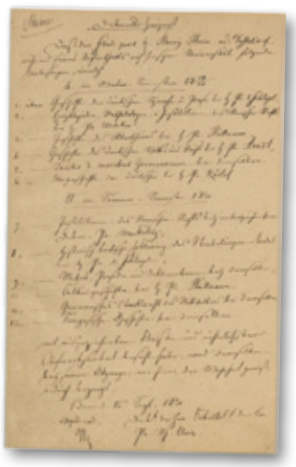


Photo: Heinrich Heine Institute, Düsseldorf

“Dean’s Certificate” [of the lectures attended by Harry [Heinrich] Heine in the 1819/20 winter semester and the 1820 summer semester]. – Bonn, 1st of September, 1820

Stuffy atmosphere, snobbery

In 1819, Heine enrols in Bonn for Law. His handwritten “Collegiate Register” and the certificates from the 1820 summer semester which it contains reveal which courses he attended: Philology with August Wilhelm Schlegel, History with Karl Dietrich Hüllmann and Law with Ferdinand Mackeldey.

In the 1820s, Heine continues his studies, now in Göttingen and Berlin, even though he is by no means filled with passion for Law, but instead also continues to work on literary texts and publications. Although Heine is part of boozy and convivial student life in all the university towns in which he lives, he considers the atmosphere stuffy and the still prevailing feudal structures and snobbery as outdated: “In general, the inhabitants of Göttingen are divided into students, professors, Philistines and livestock; the four groups are strictly separate. The livestock are the most important”. In his travel report “The Harz Journey”, Heine publishes a dream from his time in Osterode which transports him to the library in Göttingen. There he encounters “Iustitia” herself as a giantess accompanied by lawyers, “mostly angular lurking fellows who with broad self-satisfaction immediately

Photo: Heinrich Heine Institute, Düsseldorf

"LET PEOPLE SAY THAT I AM A BASTARD, SON OF A HANGMAN, HIGHWAYMAN, ATHEIST, BAD POET – I CAN LAUGH AT THAT; BUT IT BREAKS MY HEART TO SEE MY DOCTORATE CONTESTED." **Heinrich Heine, Author (1797–1856)**

started to define, differentiate and expostulate on every single little title in the Pandects." Funded and put under pressure by his rich uncle Salomon Heine from Hamburg, he is obliged to show some self-discipline again towards the end of his studies. Heine tells his sister: "My muse wears a muzzle so that she does not disturb me with her melodies as I thresh legal straw."

Doctor of Laws with a mediocre grade

In May 1825, Heine completes his Law studies in Göttingen. Shortly afterwards he has himself christened in accordance with Protestant belief as "Johann Christian Heinrich Heine", also because he calculates that his professional prospects will be better by so doing. After all, it is forbidden in Prussia for Jews to hold office. In July 1825, he completes his doctorate, yet with only a mediocre grade, and becomes Doctor of Laws. He defends his thesis in the presence of Gustav Hugo, the then Dean of the Faculty of Law. Heine did not write a dissertation, as is common today, and at that time it was not expected either. In the end, Heine is not accorded a position in the civil service nor indeed ever works as a lawyer, but instead devotes himself entirely to poetry and journalism. However, he defends himself vehemently against the accusation that he only bought his Doctor of Laws: "Of all the lies

"...about which I know the least."

printed about my private life that is the only one I want to see denied. See how arrogant scholars are! Let people say that I am a bastard, son of a hangman, highwayman, atheist, bad poet – I can laugh at that; but it breaks my heart to see my doctorate contested (between us, whether Doctor of Laws or not, jurisprudence is the one science of all about which I know the least)."

On the occasion of the 8th Düsseldorf Conference on Insurance Law, **Dr. Sabine Brenner-Wilczek,** Director of the Heinrich Heine Institute of the Federal State Capital of Düsseldorf, gave a lecture on 22.10.2015 at Palais Wittgenstein entitled "Heine and Jurisprudence" in the series "50 Years of Heinrich Heine University". An abridged version of her lecture is reproduced here.

How long does a light pulse need from University House to Düsseldorf's Old Town?

Spectacular laser experiment for "Quarks & Caspers" TV programme

Light travels so ludicrously fast that for a long time it was even thought that it doesn't move at all, but instead is immediately everywhere at the same time. It has only been possible for the last hundred years or so to measure light with adequate precision.

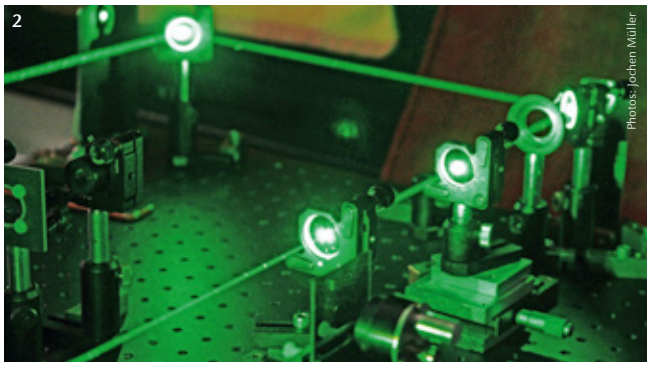
BY GEORG PRETZLER

The measuring process shows that the speed of light is always the same, regardless of how one moves in relation to light – quite different than with wind or sound. Albert Einstein postulated this effect in his special Theory of Relativity and his theory was substantiated in many experiments. That is why in 1983 the decision was made to attribute a fixed magnitude to the speed of light: 299,792,458 metres per second. As a precisely defined value, the speed of light is today used to measure lengths accurately.

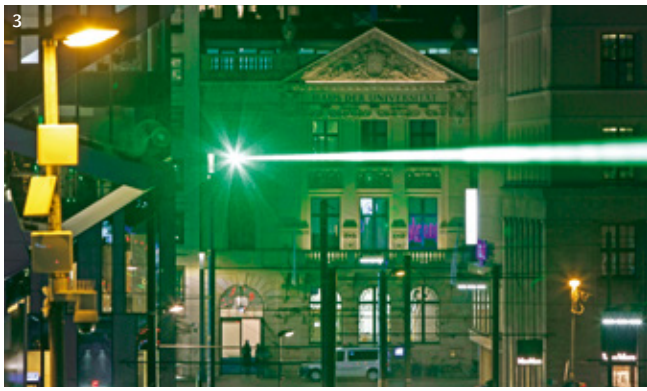
When WDR (a local broadcasting company), enquired in the middle of January whether we couldn't perhaps measure the speed of light as publicly and conspicuously as possible, and yes, really, during Carnival, then the suspicion of course arose just briefly that it was a joke: "The folk in Düsseldorf are still measuring the speed of light, what a laugh!" But it was a serious question. The TV programme "Quarks & Caspers" wanted to examine in more detail the speed of light and various ways to measure it. Our job: To measure the speed of a light pulse. You take: A laser with short pulses, pulse-measuring equipment (all to hand) and a fairly long light path, so that measuring is sufficiently accurate. After a few suggestions (in the laboratory – light path too short, across the campus – not public enough for the TV people, from the University to the Rhine Tower – too dangerous) the perfect route was found: From University House (HdU – Haus der Universität) on Schadowplatz straight to Düsseldorf's Old Town.

Laser-Matter Interaction Working Group

Following pre-trials at the University, on the 25th of January the entire Laser-Matter-Interaction Working Group was there at the start to put the idea into practice. A 5-Watt laser was installed in University House. Sounds easy, but has a few snags: Vibrations from trams and the floor moves when people walk about on it. Even if it's only a matter of a few millimetres or less, in the case of a long light path it can still soon



Photos: Jochen Müller



1: The laser "shot" from University House into the Old Town

2: The laser set-up in University House

3: The very first beam hit the target.

4: Professor Dr. Georg Pretzler (left) and TV editor Sebastian Funk. The experiment was shown on "Quarks & Caspers" on the 23rd of February.

lead to shifts in the metre range – far too dangerous in public spaces. Only cushioning with large weights and a special optical table were able to create some stability. Such situations show how lucky we are with our vibration, temperature and humidity-stabilized laboratory on the campus.

Mirror in eye specialist's surgery

Eye specialist Dr. Georg Fischer placed his surgery at the end of Bolker Strasse at our disposal as the reversal point: A mirror was installed there to reflect the laser beam back to University House. This required extensive stabilization measures too. The trickiest part was hitting the target precisely over a good 300 metres: The laser is so strong that any deviation would be fatal. A complex arrangement was set up to align the light path precisely without the laser beam. And the very first light beam indeed hit the target exactly and, after the mirror had been adjusted, travelled back to University House. The bright ray left many passersby curious and they were eager to hear what was going on.

The bright and continuous beam was, however, not suitable for our measuring purposes and had to be chopped up into short light pulses with a special device. It was now possible to measure exactly the moment of departure and arrival of each light pulse – like the start and end of a 100-metre race. Our result: The light needed exactly 2.3179 +/- 0.0012 µs for the distance of 693.7 metres +/- 1.3 metres. This produces a magnitude of 299.300 +/- 600 km/s for the speed of light. To summarize: The speed of light is as fast in Düsseldorf as everywhere else. During Carnival too.

The author of this article, **Professor Dr. Georg Pretzler,** holds a chair for "Laser-Matter Interaction" in the Department of Physics.

HHU team wins most prestigious MBA case study competition in the world in Montreal

Solve complex business challenges under time pressure? No problem for a team of students from Heinrich Heine University Düsseldorf! The five students from the Faculty of Business Administration and Economics won the "MBA International Case Competition" of the John Molson School of Business at Concordia University in Montreal (Canada) which was staged for the 35th time from the 3rd to the 8th of January 2016.

In the largest and oldest competition of its type, 36 teams from universities and business schools from around the world meet each year to apply their classroom knowledge to real-life entrepreneurial problems. The task of the participating teams is to develop strategies for current challenges in business in several rounds of the competition and then to present these strategies in front of high-ranking managers from the North American business community in either English or French and to defend them against the judges' intensive questioning.

Professional challenge and team spirit

The team of students from Düsseldorf – Sarah Daniel, Timon Gottschalk, Anja Kievelitz, Peter Mandel and Laura Moll – was selected and given extensive coaching by Professor Dr. Christian Schwens, Professor Dr. Rüdiger Hahn and Hendrik Klier. "It was such a unique experience!" says Sarah Daniel. "The professional challenge and our great team spirit definitely made a tremendous impact on all of us."

In the group phase, the students from Düsseldorf competed against teams from Canada, Singapore, Israel, Ireland and the USA. Having won their group round, the team went on to win the semi-final and then the grand final, leaving a lasting impression on the jury as well as several hundred spectators in Montreal and those around the world who watched the competition live via the internet.

"This competition is the Champions League of business case studies and we are very proud of our team for its outstanding performance", reports Professor Hahn, who now works at the University of Hohenheim and helps to take care of the team in an honorary capacity. Professor Schwens, Chair of Management and Vice-Dean of the Faculty of Business Administration and Economics, summarizes: "This excellent achievement shows once again that business studies at Heinrich Heine University Düsseldorf rank high at international level. We all owe our thanks to the Konrad Henkel Foundation which with its generous financial support has made it possible for us to take part in this special event in Montreal for many years." Carolin Grape

▸ **Contact:** Professor Dr. Christian Schwens, Chair of Management, Tel. 0211 81-11542

Photo: private

Team Düsseldorf at the award ceremony, from l. to r.: Timon Gottschalk, Anja Kievelitz, Peter Mandel, Sarah Daniel, Laura Moll, Professor Dr. Christian Schwens, Professor Dr. Rüdiger Hahn, Hendrik Klier