Research

Questioning the system
By Nicola Holzapfel

“Market-based regulation cannot protect the interests of the weak,” says Markus Vogt, Professor of Social Ethics at LMU. Here he considers the implications of globalization and climate change, and explores ways of reducing inequality. For the complete article, see www.en.lmu.de/news/insightLMU/2014/04_01.pdf

Cooks on Campus
by Constanze Drewlo

Do you just shove a frozen pizza in the oven when you get home? In the online series “Cooks on Campus”, international students at LMU help you to make your meals more exciting, and share tips on how they got into their stride at LMU. continued on page 2

Power to the postdocs
by Clemens Grosse

The Marie Skłodowska-Curie Actions, which form part of the EU Research Framework Programme Horizon 2020, are designed to foster professional independence by enabling post-doctoral researchers to pursue their own projects. continued on page 3

People

“Why wait when I can use my law knowledge to help people now?”
by Elizabeth Willoughby

Sick with dengue fever in Kuala Lumpur, Malaysia while under pressure to complete her university assignment, a light went on in the mind of LMU law student Franziska Faßbinder. That is the moment she decided to do something meaningful with her academic knowledge – to somehow apply it to volunteer work. continued on page 5

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Helping the hungry: The UN’s Food Program provides food assistance to people in need.
Cooks on Campus
by Constanze Drewlo

Do you just shove a frozen pizza in the oven when you get home? In the online series “Cooks on Campus”, international students at LMU help you to make your meals more exciting, and share tips on how they got into their stride at LMU.

In the kitchen of the residence hall on Steinickeweg Neele is hard at work, pouring red wine into a large pot, weighing out the flour for the biscuit dough, grating dark chocolate to use as a topping. Neele (29) is engaged on a doctoral dissertation on crime fiction from India and South America, but today she is making Christmas cookies for and with the members of her German-Indian roundtable. In Germany, biscuit-baking is a fixture during Advent, and the traditional cookie forms are an essential part of the Christmas season, just like gift-giving and the Christmas tree. “I wanted to show the Indian students in the group the kinds of traditional things we do during Advent,” Neele explains. “And I think that making biscuits together is one of the best ways of getting into the Christmas spirit.” Shortbread biscuits, chocolate cookies with hazelnuts, coconut macaroons and crescent-shaped Vanillekipferl are on her list. “And we have mulled wine and freshly made waffles – to help us pass the time while the biscuits are in the oven,” she adds.

As her Indian guests begin to wander in, they gather in the kitchen to see what Neele is up to. “This is my first experience of German Christmas baking,” Hema says. Together with other Indian and German students, Hema will help Neele to make the biscuits featured in the latest chapter in a new online series on the LMU website: in “Cooks on Campus”, students from around the world let us look over their shoulders as they cook their favorite dishes from home for their friends in Munich – and share the recipes with us.

Tips on surviving that first semester

But “Cooks on Campus” is not just about food: For our contributors also have useful hints for student life outside the kitchen – for instance, how to find new friends in an unfamiliar city or how to survive the first semester when your German is not quite up to scratch.

Neele’s tip is keep an eye out for Facebook groups and regular student get-togethers in Munich. Her German-Indian roundtable, for instance, is attended by exchange students from India and German students who have worked or attended courses in India. “That is the best thing about our roundtable,” says Neele. “One is always making new acquaintances – and since everyone is connected with India in one way or another, there is never any shortage of things to talk about.” Having taken part in a DAAD exchange program, Neele stayed on for several months to work in Delhi, and subsequently returned to do an internship.

Rong from Nanking, who is studying German Literature at LMU and has presented a typical Chinese student’s menu in “Cooks on Campus”, recommends the growing number of online lecture courses that LMU is now providing. In her own early days in Munich, she hit on the idea of recording lectures live, so that she could listen again to the more difficult passages at home. “Now LMU offers online lecture courses or MOOCs – and that helps foreign students enormously,” she says. “And many of my fellow-students helped me out by letting me borrow their lecture notes, which was very nice.”

Neele came to Munich specifically to do her doctoral work on crime fiction written by Indian and Latin American authors, at one of LMU’s Graduate Schools. Particularly in the early phase, she learned to appreciate the advantages of this type of doctoral program, she says. The classical route to a doctorate in Germany still involves working alone on a defined topic under the supervision of a single thesis advisor. However, interdisciplinary Graduate Schools and other forms of structured doctoral programs modelled on international examples are now on the curriculum at LMU. The Graduate School on Functions of Literature in Globalization Processes is a perfect match for the subject of her dissertation, Neele says. “And apart from that, it is always helpful when one can exchange views and ideas with other graduate students who are working on related topics.”

Translation: Paul Hardy

www.lmu.de/en/cooks-on-campus
Power to the postdocs
By Clemens Grosse

The Marie Skłodowska-Curie Actions, which form part of the EU Research Framework Programme Horizon 2020, are designed to foster professional independence by enabling post-doctoral researchers to pursue their own projects.

Newton’s Theory of Gravitation cannot account for all elements of astrophysics and astronomy. But Newtonian physics is still used to guide space probes through the Solar System, although Albert Einstein’s more comprehensive, precise and rigorously tested General Relativity Theory provides a better means of doing so. But why should a flawed model continue to be applied – with great success – in preference to a better alternative? This is a question that preoccupies Dr. Samuel C. Fletcher at LMU’s Munich Center for Mathematical Philosophy. Fletcher, who takes up a position as Assistant Professor at the University of Minnesota in Twin Cities in 2015, probes the foundations of scientific theories, with particular reference to how new formulations relate to older theories. He holds an Individual Fellowship funded by the EU. These awards are part of the Marie Skłodowska-Curie Actions, a grant program targeted to postdocs, and a component of the Horizon 2020 research strategy.

Fletcher is thrilled to have the fellowship. “In the US, there are not many positions open to postdocs in the philosophy of science,” he says. Though this is beginning to change, he adds. Several universities now offer grants to support postdocs working in the field, but these are the exceptions. “That’s why I decided to come to Europe and to Germany.”

Applying for, and obtaining, one of the Curie fellowships is no simple matter. On the other hand, they are significantly more generous than those offered by other sources. Before submitting his own application, Samuel Fletcher therefore took a close look at previously successful – and unsuccessful – applications, and at the comments made by the assessors. “The proposal should of course fit within the research context provided by the host group,” he says. In addition he advises potential hopefuls to study the evaluation criteria very carefully and take every word to heart. And, he says, one must repeatedly subject one’s work to critical review. Finally he recommends that proposals should be written as simply as possible. “The reviewers are knowledgeable experts, but are not necessarily completely at home in any given specialty.”

Help is at hand for applicants

Preparing such an application involves lots of work, both for the applicant and the host institution. However, tips on how best to go about it are available from several sources – such as LMU’s Information Office for International Research Funding. “We organize workshops on how to apply for the Individual Fellowships and the Innovative Training Networks, as well as individual consultations and support in preparing the application itself,” explains Dr. Brigitte Weiss-Brummer, who heads the Office. Applicants can avail of a proofreading and reviewing service, and sample applications embodying best practice can be consulted.

“Postdocs who make use of our services have a demonstrably and significantly better chance of success,” Weiss-Brummer affirms. In such a highly competitive process, she says, it is essential to attend to every last detail of the application formalities.

Promoting internationalization

For LMU, the Marie Skłodowska-Curie Actions are an important resource in the drive to internationalize research in Europe. Indeed, during the preceding Seventh Framework Programme for Research, which ran from 2006 until 2013, LMU hosted a total of 66 projects – more than any other German university.

LMU also offers other services whose common aim is to encourage highly promising postdocs to make a career in research. These programs enable young researchers to pursue their own ideas, create opportunities to extend one’s set of skills, and support applications for fellowships, prizes and extramural project funding.

For Samuel Fletcher, the freedom to try out one’s own ideas is the most important prerequisite for success. In his own case, this includes the chance to learn German and make new contacts – and to use Germany’s well-developed public transport systems. He finds them much more convenient than most rapid transit systems in his homeland.

Translation: Paul Hardy
Caught in a tight corner

By Hubert Filser

Unrestrained immune reactions promote atherosclerosis. Clinical researcher Christian Weber is studying the web of molecular decisions that lead to this misdirected and potentially fatal response.

For the complete article, see www.en.lmu.de/news/insightlmu/2014/04_02.pdf

Vaccine against bird flu tested in humans

A vaccine directed against the avian influenza virus H5N1, has now undergone its first clinical tests. The candidate vaccine was developed by research teams led by Professor Gerd Sutter at LMU’s Institute for Infectious Diseases and Zoonoses and Professor Albert Osterhaus at the Erasmus Medical Center in Rotterdam. The vaccine is based on the use of tried-and-tested MVA (Modified Vaccina virus Ankara) scaffold. MVA was developed at LMU more than 30 years ago for use as a vaccine against smallpox, and it is used as a versatile platform for the development and investigation of vaccines targeted against diverse pathogenic viruses and cancer-specific proteins. Because the MVA genome can accommodate genes from other sources, researchers use molecular biological methods to introduce foreign genes – encoding proteins specific for other viruses, for instance. These proteins are then displayed on the surface of MVA infected cells, where they act as antigens, provoking the production of antibodies against the original source virus, in this case avian influenza virus H5N1. The aim of the candidate vaccine is to induce the immune system to produce protective antibodies that are capable of preventing infection of humans by the bird virus. The results of the clinical study show that administration of the vaccine indeed provokes a robust antibody response. In addition, the test subjects could safely be given an efficient booster injection one year after the first immunization. “Indeed, following the booster, the levels of antibodies present in the circulation increased significantly more than expected,” says Gerd Sutter. The study itself was performed at the Erasmus center in Rotterdam and involved 80 volunteers between the ages of 18 and 28, who were given two or three shots containing different concentrations of the MVA particles.

Optical control of insulin secretion

Synthetic, light-sensitive, molecular switches can be utilized to control biochemical signaling processes in living cells. A research team led by LMU Professor Dirk Trauner (Chemical Biology and Genetics) and his colleague Johannes Broichhagen, in collaboration with Imperial College London, have succeeded in incorporating such an optical switch into a sulfonylurea compound; a class of drugs which is widely used to regulate blood glucose levels in patients with Type 2 diabetes. Dirk Trauner explains the basic principle behind the experimental approach as follows: “We utilize synthetic molecular switches whose structure is altered by light in conjunction with the natural receptor proteins for specific signaling molecules. The chemical switches effectively make the receptor’s function dependent on exposure to light of a certain color. Light can be controlled with exquisite precision, which allows us to target the receptor of interest with very high specificity. In addition, the activating reaction is itself reversible.” Trauner and his colleagues have now synthesized a light-sensitive sulfonylurea, called JB253, and tested its ability to stimulate insulin release in laboratory experiments. They were able to show that pancreatic cells incubated with the compound secreted insulin only when exposed to blue light, which converts JB253 into a form that is recognized by its target protein, a potassium channel. Once the light is turned off, JB253 reverts to the inactive form and the effect on the potassium channel and downstream signaling pathways ceases. “Our JB253 prototype could give us an important tool with which to dissect the function of the potassium channels,” says Trauner. But he also believes that photopharmacology can do more: “We are convinced that it will also become clinically relevant in the not too distant future.”
Besides the timing, her decision had nothing to do with the illness. Her determination to apply her law knowledge to volunteerism was influenced by foreign experience, which by that time she’d had plenty of. When in high school in 2005, Franziska lived for six months in Lyon, France in order to learn the language. It happened to be the same time that there was rioting in the French suburbs, the notorious low-income housing projects to where mainly immigrants are relegated. This provoked her to write a paper about migration, and was her first contact with refugee organizations.

Seeing the other side

Franziska also lived in Russia for a year, which is where she gained a more profound insight into the immigrant experience. Before working for a German law firm in Moscow for three months, she went to Saint Petersburg State University, with no local language, no friends and, during the parliamentary elections in autumn 2011, even her personal blog was censored. “For the first time in my life,” she says, “I felt completely lost.”

A quick study, she was able to converse in Russian within three months, and had made some friends as well. “Russians are honest,” she says. “While Starbucks is selling the smallest coffee as ‘tall’, the cheapest theatre ticket in Russia is sold as ‘price category: uncomfortable’. It is hard to become friends with Russians, but once you do, they can’t do enough for you.”

Six months after her return to Munich, Franziska began the half-year law program that was divided between Italy and Malaysia. Of its courses, The Refugee in International Law made the biggest impact. “It raised the awareness for me that the right for asylum is a human right,” she says, “and made me ask myself how I can support it. I could sit every day in the library studying jurisprudence, but couldn’t I also be using my knowledge about law to help people now? To learn what kind of problems people are struggling with and gain some practical experience?”

In 2013, Franziska invited some law students around for dinner and pitched her idea about creating a legal clinic for refugees in Munich that would be serviced by volunteers. Her friends agreed that it was a good idea, but none felt they had time for it without negatively impacting their studies. Amnesty International’s Munich Universities Group, which promotes human rights through university activities, supported the idea however, and by November the Refugee Law Clinic Munich (RLCM) was founded by Franziska and seven of her LMU law school friends.

Supported also with financial aid from sponsors, by their new patron Dr. Heribert Prantl from the Editorial Board of German’s largest national daily – Südliche Zeitung, and by 13 asylum lawyers who assist with workshops and instruction, RLCM provides free advice to asylum-seekers on anything from cell phone contracts to immigration law. In return for their time commitment, RLCM gives LMU law students practical experience that they won’t encounter in Germany’s law studies curriculum. After only 12 months, RLCM is now 150 members strong and growing, with over 40 refugee cases under its belt and several social entrepreneurship awards. The idea grows legs

“When I started my studies, I was not planning to become a lawyer. I wanted to be a journalist,” says Franziska. “But during an internship at a Munich editorial office, my boss told me that if I wanted to be a good journalist, I should study law. That way one also gets a close look at history, politics and the values of our society.” Unsure in which field of law she will eventually practice, for now Franziska’s time is spent at RLCM and preparing for her bar exam next year.

www.lawclinicmunich.de
Max Planck Medal for LMU physicist

Viatcheslav Mukhanov, Professor of Physics at LMU, models the physical processes that occurred in the instant immediately after the Big Bang. The German Physics Association (Deutsche Physikalische Gesellschaft, DPG) has now awarded his highest distinction for theoretical physics, the Max Planck Medal, to this renowned expert in the field of Theoretical Quantum Cosmology. With the help of mathematical physics, Mukhanov tries to find answers to the most fundamental questions in cosmology. What exactly went on when our Universe came into existence? How could the infant Universe have undergone the brief but extraordinarily rapid phase of expansion postulated by the cosmic inflation model? And how was it possible for stars, planets and galaxies to form at all? According to a statement issued by the DPG, the Selection Committee chose to honor Mukhanov in recognition of his “fundamental contributions to cosmology, in particular those bearing on the evolution of large-scale structure on the basis of quantum fluctuations in the early Universe.”

New Humboldt Professor for LMU

Karen Radner, Professor of Ancient Near Eastern History at University College London (UCL), has been awarded an Alexander von Humboldt Professorship, and becomes the fifth holder of the internationally prestigious distinction at LMU. Radner, who was nominated by LMU, was among those recently chosen to receive the distinguished award by an interdisciplinary selection committee appointed by the Humboldt Foundation. Karen Radner is an internationally recognized expert on the history of the Assyrian Empire. When she takes up her Humboldt Professorship in the History of the Ancient Near and Middle East in LMU’s Faculty of History and the Arts, she will undoubtedly help to stimulate a paradigm change in the historical sciences in Germany. For the establishment of this new Chair in the Department of History at LMU means that – for the first time in Germany since the traditional boundary between the two fields was drawn more than a century ago – the age of Classical Antiquity and the preceding epoch of Near Eastern history dating back to 3000 BC can both be studied within a single institutional framework. This represents a striking extension of the Institute’s horizons beyond that of the Greco-Roman world. Karen Radner joins systems biologist Ulrike Gaul, astrophysicist Georgi Dvali and philosophers Hannes Leitgeb and Stephan Hartmann as the fifth Humboldt Professor on LMU’s faculty.

DAAD Prize for Tanzeem Haque

Tanzeem Haque does voluntary work as a paramedic and youth instructor, is active in student affairs, has a 4-year-old daughter – and her Bachelor’s thesis earned the top grade. This record has now won the 29-year-old from Bangladesh the DAAD Prize, awarded by the German Academic Exchange Service for extraordinary academic and social commitment. “I believe that if one has time for voluntary work, one should do it,” she says. Haque works for the Red Cross and, as Equality Officer for the Students’ Council, she represents the interests of those who, like herself, must coordinate child-rearing with their studies. She is now doing a Master’s in Bioinformatics – although this often means working late into the night. The DAAD Prize, worth 1000 euros, is awarded annually to foreign students who have a distinguished record of academic achievement and service to the wider community.

LMU’s International Summer University 2015 calls for applications

LMU Munich once again invites students from all over the world to take part in one of the stimulating academic programs on the curriculum of the Munich International Summer University (MISU). In 2015 the season gets off to an early start – with the Oncology and Neurology Winter School in March – and ends in September. The Summer Academies in 2015 will cover a broad range of subjects including European politics and law, biology and nanosciences, electronic media and entrepreneurship. MISU encompasses schemes tailored for students at all stages of their career – comprising demanding undergraduate courses, practical research programs and doctoral seminars, as well as German classes and cultural excursions. Every year, more than 800 students from no less than 80 countries make MISU a truly international experience. For further information and application details, please consult the brand new MISU website at: www.lmu.de/international/misu

Any questions or comments? insight@lmu.de