Universität Konstanz

Zukunftskolleg Annual Report 2015/2016

Zukunftskolleg

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In its tenth year, the Zukunftskolleg can look back on a remarkable success story: A total of 99 Fellows from all fields represented at the University of Konstanz have worked independently on their research projects. Of our Fellows, 46% were from abroad, enriching the Zukunftskolleg and the university with their international perspective. Additionally, 48 Senior Fellows and 53 Mentors from all over the world joined the Zukunftskolleg and the University of Konstanz for a scholarly exchange across the generations.

The Zukunftskolleg's mission is to provide everything young researchers need to advance their research and career. In order to meet this objective, we pursue the "5i" strategy: Early independence with an international, intergenerational, intra-university and interdisciplinary perspective. The career paths of our former Fellows confirm that this strategy is successful. Of our former 5-year Research Fellows, 80% hold tenured positions in academia today. We are impressed with how our former Fellows overcame numerous obstacles to advance their research, and now want to tell more people about them. In our Alumni Career Paths series, we have been presenting a new story of a former Fellow every two weeks. Take a moment and be inspired by these outstanding researchers: uni.kn/zukunftskolleg

We are content with our achievements, but cannot rest on our laurels: The career paths of young researchers change constantly and we are committed to changing with them, in order to provide the best-possible support. This is why we constantly monitor the needs of our Fellows and try to find programmes to meet them. We recently noticed that our Fellows increasingly go abroad for visiting research stays and responded to their necessity for international exchange by developing a mobility funding instrument for scholarly exchange. Change is crucial for the Zukunftskolleg to remain what it is: An excellent environment for young researchers to experiment with new ideas and focus entirely on their research projects.

Examples of such projects are presented in this report, which covers the activities of the Zukunftskolleg through 2015 and 2016. It is intended to give you an overview of what our Fellows have been working on. We hope you will enjoy reading it as much as we do!

Best wishes

Giovanni Galizia
Director of the Zukunftskolleg

Professor Dr. Dr. h.c. Gerhart von Graevenitz

Gerhart von Graevenitz (1944 – 2016) was a visionary who understood that the future of academia lies in the young generations. Starting small and against fierce resistance, he created the Zentrum für Wissenschaftlichen Nachwuchs (ZWN, Centre for Junior Research Fellows) in 2001. This institution grew to what is today: the Zukunftskolleg. He believed that we need to create the right environment, give researchers freedom, and provide them with resources in order to promote the insight, communication, creativity and novelty that are crucial to outstanding research. He was very passionate about this and inspired us all. His commitment and dedication impressed our Fellows, staff, and colleagues. He was the Director of the ZWN and the subsequent Zukunftskolleg until 2009, and an esteemed advisor far beyond that period. We aim to continue and develop his legacy in his spirit.

Internationalization Strategy

Internationalization is a key element of the Zukunftskolleg's 5i strategy: Early independence with an international, intergenerational, intra-university and interdisciplinary perspective. Our Fellows come from many regions of the world, and they will go to many regions of the world. Internationality is thus part of the everyday life at the Zukunftskolleg and the university. An exchange with researchers from abroad is essential to a dynamic academic environment. And relationships, careers and strong ties within the global academic community are beneficial to our Fellows.

For this reason, we seek to create international networks that will last for years to come. By means of the Zukunftskolleg, the University of Konstanz competes with many renowned academic institutions across the globe to recruit clever minds - and it has been very successful in doing so over the last nine years. To maintain our international atmosphere and further expand internationalisation in the Zukunftskolleg, we have identified four fields of action:

1. Recruitment of International Postdoctoral & Research Fellows to the University of Konstanz

The Zukunftskolleg functions as an international hub for outstanding researchers in the early stage of their academic career. About half of the Fellows at the Zukunftskolleg come from abroad and represent all world regions. As a central element of the Zukunftskolleg's 5i strategy, international Fellows contribute their networks and outlook to help connect Konstanz University to the international academic community.

2. International Research Collaborations of Zukunftskolleg Fellows

The Zukunftskolleg Fellowships enhance learning experiences and support international research cooperation. Our senior fellow and mentorship programme enables fruitful, intergenerational and international scientific exchange and many of our fellows nominate a senior fellow or mentor during their stay. Moreover, international cooperation is a common element within the Zukunftskolleg Fellowship. Our Fellows can establish or foster international research relationships during their time at the Zukunftskolleg.

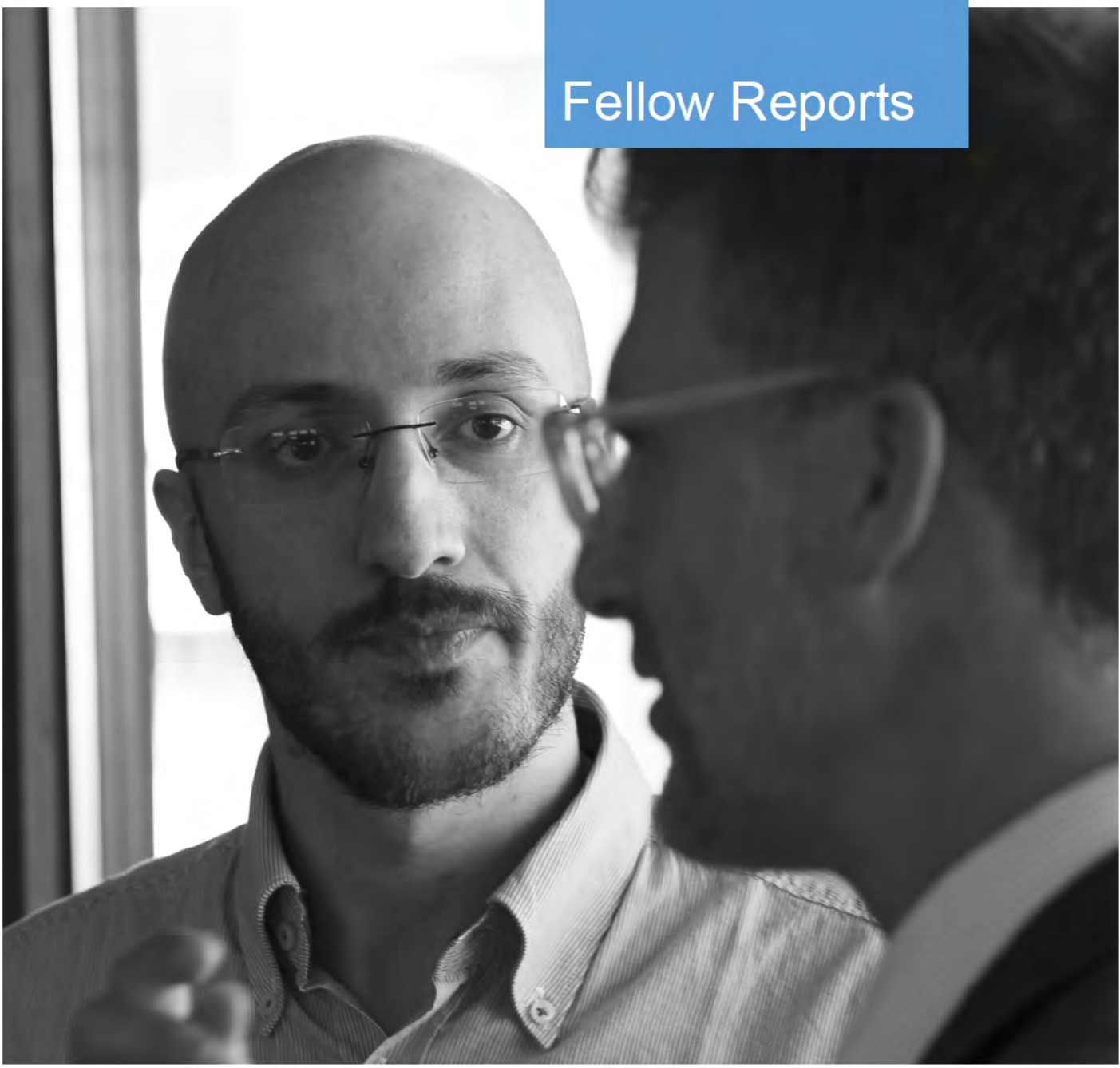
3. International Career Development and Mobility of Zukunftskolleg Fellows

The Zukunftskolleg Fellowships enhance learning experiences and support international career paths by promoting international mobility. Many Fellows have temporary assignments at other research universities during their stay. The Zukunftskolleg supports international exchange and temporary assignments by developing and implementing new programmes and funding instruments.

4. Institutional Cooperation and Networks

International cooperation at the institutional level is to be expanded, because it fosters an exchange of knowledge, best practices and ideas. Bilateral cooperation is as beneficial to this goal as involvement within broader institutional networks. Institutional networking generates new career options for our Fellows and enhances the international visibility of the Zukunftskolleg.

Fellow Reports



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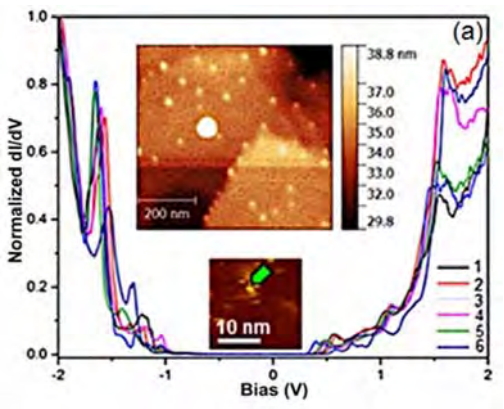
Size-Controlled Luminescent Semiconductor-Metal Hybrid Nanostructures: Interplay between Size, Optical and Transport Properties Explored on the Single Object Level

Tuhin Shuvra Basu, Department of Physics

Silicon (Si)-metal hybrid nanoscale objects with controlled dimension and desired morphology are exceptionally promising candidates for exploring the fundamental physics of small systems and for potential applications. In this project, our primary aim is to probe the individually size reduction induced electronic state modification of ultra-small luminescent Si nanoparticle (NP) and plasmonic noble metal, gold (Au) and silver (Ag), NP by means of scanning tunneling microscopy (STM). The advantage of individual measurement is the ability to determine the exact correlation between their size and intrinsic property. Consequently, the hetero-nanostructure of Si NP and Au/Ag NP is extremely important due to the utilization of exciton-plasmon coupling. In Si NP-Au/Ag NP heterostructure, a modification in band structure is expected that leads to a complex and competitive decay dynamics of both excitons and plasmons. Therefore, the photophysical and electrical properties of these hybrid nanoscale objects will certainly change and, importantly, they can be altered by changing the size and shape of the individual component and its overall orientation. Therefore, we aim to determine the exact dynamics of the excitons and the interaction between the exciton and plasmon on the single-particle level. Finally, we will attempt to utilize these silicon-metal hybrid nanoscale objects as efficient energy harvesting thermoelectric material.

The idea can be elaborated with a specific example of luminescent Si NP. The photoluminescence (PL) from Si NP offers different potential applications in optoelectronic devices,[1] the renewable energy sector,[2] and even in biological imaging/tagging.[3] Despite its well-observed PL, the mechanism of PL in individual Si NP is still controversial in terms of the inner chemical mechanism,[4] exciton dynamics[5] etc. The bottleneck in determining the exact reasons behind the optical emission is the lack of knowledge of the detailed energy spectrum and the electronic transport through Si NP. In this regard, the study of the scanning tunneling spectroscopy of individual NP (collected from colloidal suspension of NC ensemble) is a comprehensive tool for determining the transparency of the tunnel barriers and mapping the local density of states (LDOS) of individual NP. The figure exhibits such a single particle measurement by STM of luminescent Si NP in the dimension ~5 nm, whereas the inset in the figure shows the uniform dispersion of Si NP on substrate. An Si NP between the tip of the STM and the conducting substrate (where it has been deposited) forms a double barrier tunnel junction (DBTJ). From this picture, a clear Coulomb blockade has been observed, which is a signature of Si NP. Further, this gap has a direct co-relation with the optical bandgap of the NP. The various kinks beside the Coulomb blockade region demonstrate the electronic transport and bandgap modification of Si NP in a DBTJ arrangement. Hence low-temperature differential conductance measurement exhibits broad and minute features of the electronic band structure and gives an idea of the electronic transport.



STS of individual Si NP of ~ 5 nm

This type of study is interesting for engineering the electronic bandgap and the electronic state of the individual NP. By proper engineering and integration with other nanomaterials (especially a noble metal), it is possible to envisage future optoelectronic devices, energy harvesting materials, and sensing materials in nanoscale.

1 V. Singh et al. *Nanoscale*, 6, 14643-14647 (2014).
2 C. Leendertz et al. *Phys. status solidi* (a) 212, 156-161 (2015).
3 B. F. P. McVey et al. *Acc. Chem. Res*. 47, 3045-3051 (2014).
4 M. Dasog et al. *ACS Nano*, 7, 2676-2685 (2013).
5 M. T. Trinh et al. *Nat. Photonics* 6, 316-321 (2012).

ENFOLDing Project on Global Dynamics

Janina Beiser, Department of Politics and Public Administration

In summer 2016, the work of the interdisciplinary ENFOLDing project on global dynamics that I was part of before joining the Zukunftskolleg resulted in the publication of two edited volumes. I contributed one chapter to each of these books.

During my PhD, I worked with colleagues from various academic backgrounds, such as mathematics and political science, on the security work stream of the ENFOLDing project, which explored the security aspects of global interdependencies. The interdisciplinary project at University College London led to the publication of two edited volumes in Summer 2016, one on the methodological aspects of analysing complex systems and one on the questions relating to global and local dynamics.

The book on the methodological aspects of complex systems is entitled "Approaches to Geo-mathematical Modelling: New Tools for Complexity Science". It is edited by Alan Wilson and was published by John Wiley & Sons in September 2016. My contribution is a chapter entitled "Modelling Strategic Interactions in a Global Context", which gives an overview of a statistical technique for modelling strategic games.

The book on the questions of global and local dynamics is entitled "Global Dynamics: Approaches from Complexity Science". It is also edited by Alan Wilson and was published by John Wiley & Sons in July 2016. My contribution is a chapter entitled "International Information Flows, Government Response and the Contagion of Ethnic Conflict". This chapter discusses the role of increasing global information flows via mass media in the spread of ethnic conflict between states and in government repression against ethnic groups in their state.

Modelling Strategic Interactions in a Global Context, in: *Approaches to Geo-Mathematical Modelling: New Tools for Complexity Science*, edited by Alan Wilson, p. 293-305, Chichester: John Wiley & Sons 2016.

International Information Flows, Government Response and the Contagion of Ethnic Conflict, in: *Global Dynamics: Approaches from Complexity Science*, edited by Alan Wilson, p. 214-229, Chichester: John Wiley & Sons 2016.

Space, Number, and Geometry from Helmholtz to Cassirer

Francesca Biagioli, Department of Philosophy

In 2016, I published a book that offers a reconstruction of the debate on non-Euclidean geometry in neo-Kantianism in the second half of the nineteenth century and the first decades of the twentieth century. Kant famously characterized space and time as a priori forms of intuitions, which lie at the foundation of mathematical knowledge. The success of his philosophical account of space was due not least to the fact that Euclidean geometry was widely considered to be a model of certainty in his time. However, such later scientific developments as non-Euclidean geometries and Einstein's general theory of relativity called into question the certainty of Euclidean geometry and posed the problem of reconsidering the structure of space as an open question for empirical research. The transformation of the concept of space from a source of knowledge to an object of research can be traced back to a tradition which includes such mathematicians as Carl Friedrich Gauss, Bernhard Riemann, Richard Dedekind, Felix Klein, and Henri Poincaré. It found one of its clearest expressions in Hermann von Helmholtz's epistemological work on the empirical origins of spatial concepts. Although Helmholtz formulated compelling objections to Kant, I consider different strategies for a philosophical account of the same transformation from a neo-Kantian perspective, especially Hermann Cohen's account of the aprioricity of mathematics in terms of applicability and Ernst Cassirer's reformulation of the a priori of space in terms of a system of hypotheses.

The book addresses students, scholars and researchers who wish to broaden their knowledge of non-Euclidean geometry or neo-Kantianism. While non-Euclidean geometry offered a clear example of the loss of certainty that is characteristic of modern mathematics, the neo-Kantians looked at the structure of mathematical reasoning as a method of discovery. As in artistic and cultural forms of modernism, this way of looking at mathematics emphasized the symbolic nature of knowledge as showing new aspects of the world when seen from different angles. In a different way, the subject of the book takes inspiration from Euclid as seen by Max Ernst.

Space, Number, and Geometry from Helmholtz to Cassirer, Springer: Archimedes 2016.

The Role of Transient Magic Size Clusters in the Synthesis of CdSe Nanocrystals

Klaus Boldt, Department of Chemistry

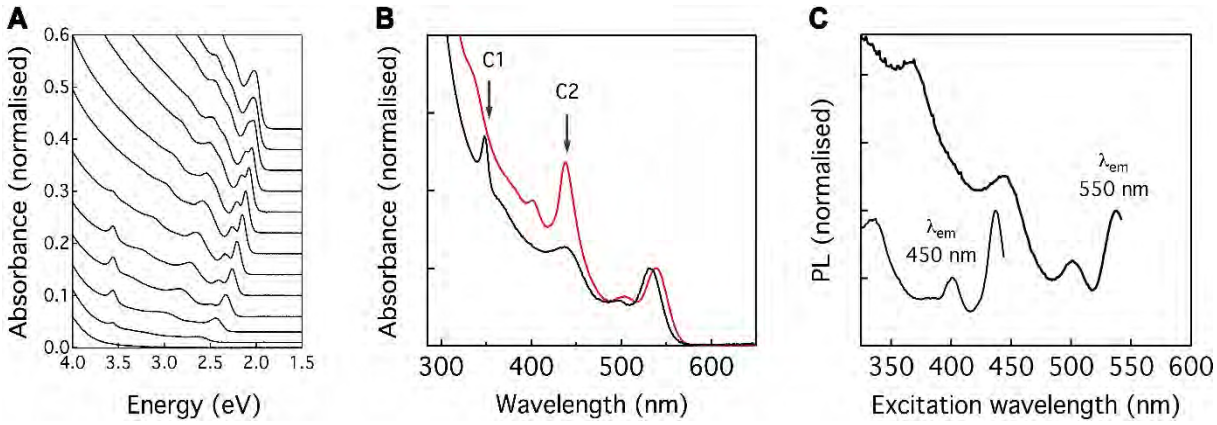
In nanochemistry we deal with the fabrication of small particles of matter, often not larger than a few 1000 atoms. We need to control size, shape, as well as size and shape distribution. The reason is that for very small sizes, the material's properties, such as colour, change with size. We thus gain a new lever for tailoring new materials. Efforts in the community to improve synthetic routes have led to a wealth of nanocrystals in the shape of spherical particles, core/shell structures, rods, dumbbells, tetrapods, or octapods.

For a nanocrystal synthesis, two precursor chemicals usually are rapidly combined at high temperature in the presence of a surfactant, leading to the first nucleation of many crystal seeds at the same time, which then start to grow to form nanocrystals of equal size. In recent years, evidence has mounted that this simple description of nanocrystal synthesis is not sufficient. In a recent, collaborative work with the group of Prof. Paul Mulvaney at the University of Melbourne and Dr. Nicholas Kirkwood (now TU Delft), we observed in the synthesis of cadmium selenide (CdSe) nanocrystals the appearance of small clusters at short times after nucleation, which have a defined composition and persist for a few seconds in the reaction mixture. Two mechanisms can be conceived for the fate of these so-called "magic size clusters", which do not appear to grow continuously: They can combine to form larger particles in a single, large step, or they can disintegrate and be used to grow onto other particles ion by ion. Our observations strongly support the latter mechanism.

We do not yet know the exact composition of these clusters, because analysis has proven to be a difficult task and the literature offers conflicting data. An important advancement has been that we are able to control the cluster size by adding small, polar molecules like water or alcohols to the reaction. This can be observed as a shift in the sharp cluster peak in the absorption spectrum from 350 nm to 437 nm when comparing reactions with and without small amounts of water present (see Fig. 1).

These clusters play a significant role in the formation of nanocrystals, because they influence the precise growth mechanism and can be used to control particle size and yield: A smaller amount of formed particles due to the trapping of some of the CdSe in clusters implies a larger size, as more material ends up being deposited onto the available nanocrystals. A change of the reaction conditions (e.g. addition of water) influences the relative stability of different possible clusters and hence changes the rate at which the final nanocrystals are formed, as well as their size and size distribution.

This discovery has the potential to impact a broad range of nanocrystal syntheses, which at the moment are often empirically optimised recipes that lack a rational and general approach. Both the control of cluster formation in-situ as well as clusters as a starting material for the synthesis of complex nanostructures will broaden the range of tools available to the nanochemist.



The evolution of absorption spectra of CdSe nanocrystals over 120 s shows the appearance of a sharp cluster peak at 350 nm (A). The peak appears to shift from 350 nm (C1) to 437 nm (C2) if water is present (B). The spectrum attributed to clusters can be separated from the larger nanocrystals by fluorescence excitation spectroscopy, proving the presence of two separate species.

Is Knowledge Performative?
Science/Stage: an Experiment in Performance Lectures

Julia Boll, Department of Literature

Science/Stage: An Experiment was a test run of a short series of lectures that took place over the course of the summer term 2015 at the University of Konstanz. They were carried out as an experiment to investigate if it was possible to hold lectures in dialogue between a literature/theatre scholar and a scientist, on a stage, with performers and dancers coming into the mix:

- **Is that Your Microbiome Taking Over?**
  with Thomas Böttcher (Biochemistry) on May 19, 2015
- **Rewriting the Experimental Script**
  With Andreas Thum (Biology) on May 29, 2015
- **Schroedinger's Stage**
  with Gianluca Rastelli (Physics) on June 26, 2015
- **The Dancing Bee**
  with Giovanni Galizia (Biology) and Christiana Rosenberg-Ahlhaus (Dance) on July 16, 2015

This series of four lectures explored a range of individual approaches to the subject of the experimental from the perspective of the sciences and of the theatre, and outlined several conceptual overlaps between scientific content and theatre methodology. By giving the lectures in dialogic form, we not only introduced a theatre convention to the format, but we could also actively debate the different ways in which the scientific approaches and those from a literature/theatre perspective overlap and intersect, creating the lectures as live experiments, in the space of the stage as a laboratory.

In addition to discussing the theoretical approaches to the subject, the lecture series also put these theories to the test and into practice by allowing actors and dancers to interfere with and even alter the lecture script. By testing out in practice how the theatre can be used to think through notions of the experimental, we were able to reassess our conception of scientific facts and scientific evidence, the notion of predictability, and who or what is actually part of the experiment.

Ultimately, we inquired whether interdisciplinary performance lectures are feasible, whether knowledge is performative, and how this practice could be used in future conceptions of knowledge formation.

An article based on the lecture series is currently under review for the forthcoming special issue *Doing Science* (eds. Nina Engelhardt and Julia Hoydis) of the *Interdisciplinary Science Review.*

Symposium "Small Molecules & Microbes"

Thomas Böttcher, Department of Chemistry

In October 2016, I organized the three-day international symposium "Small Molecules & Microbes" at the University of Konstanz. The symposium was the first of its kind and tried to bring together scientists, who are bridging the fields of microbiology and low molecular chemical compounds either by investigating how small molecules interact with microbes or by working on how microbes produce natural products. We covered a broad spectrum ranging from signaling molecules and antibiotics, to the biosynthesis of secondary metabolites and the selective inhibitors of microbial enzymes. These highly interdisciplinary research topics combine chemistry, biology, and pharmacology. The event was supported by the Zukunftskolleg and received generous additional funding from various industry sponsors, mainly the companies F. Hoffmann-La Roche and Novartis Pharma AG. I was pleased to recruit five excellent and renowned keynote speakers: Jon Clardy (Harvard, USA), Stephan Sieber (TU Munich), Helge Bode (University of Frankfurt), Greg Challis (Warwick University, UK), and Karl Gademann (University of Zurich), who gave lectures at the end of each session.

A total of 58 registered national and international participants from Germany, Switzerland, the Netherlands, South Korea, UK, and USA attended the symposium and 33 scientific lectures were held over three days in five sessions. In two student short talk sub-sessions, six PhD students and postdocs presented their research. Additional guests from the University of Konstanz attended the symposium and all keynote lectures were publicly announced in the University. The three days of the conference were full of exciting talks ranging from antibiotic development and quorum sensing, to the engineering of natural product biosynthesis pathways. It was amazing to have such an extremely high-quality combination of lectures. The networking that occurred also revealed great potential for future collaborations and fruitful discussions of the state of the art.

A ferry ride to Meersburg and dinner events rounded out the program and left time for further discussions and networking. I received a great deal of positive feedback on the symposium and I hope this meeting can be continued over the next few years, possibly also in different locations; several participants have already expressed their interest in a continuation.

Control Currents Ten Thousand Times Faster than High-Speed Electronics

Daniele Brida, Department of Physics

It is now possible to control the movement of single electrons on attosecond timescales. One attosecond is the billionth part of a billionth second. The electric field of ultrashort light pulses in this process determines how the electrons are being transported between two nanoelectrodes. The long-term goal is to optically control the current flow in new types of components, and thus much faster than possible with current semi-conductor technology. The results were published in the online issue of the expert journal Nature Photonics.

Light is electromagnetic radiation whose electric and magnetic fields oscillates at an extremely high frequency in the tera- and petahertz range, i.e. a trillion or thousand trillion oscillations respectively per second. In the successful experiment, extremely short light pulses spanning only a single oscillation cycle are focused on two electrodes, two metallic pathways pointing at each other without actually touching. The gap between the two is only eight nanometres wide. The electric field of light drives the single electrons from one electrode to the other across the free-space gap. The metallic nanostructures were produced with the help of electron beam lithography, a high-tech process for creating nano-structures.

The idea underlying the technology used in the experiments makes it possible to switch electronic circuits ten thousand times faster than current state-of-the-art electronics, on a time scale of around one hundred attoseconds.

The sophisticated laser system employed in the experiments was developed and constructed in-house. It can create the extremely short pulses with a duration of only one light oscillation. Moreover, the researchers can precisely control the chronological sequence of the electric field of this light oscillation. Consequently, it enables them to control whether the electron moves from the right to left, or vice versa.

Sub-Cycle Optical Phase Control of Nanotunnelling in the Single-Electron Regime (with Tobias Rybka, Markus Ludwig, Michael Schmalz, Vanessa Knittel, Daniele Brida and Alfred Leitenstorfer), in: *Nature Photonics*, 10, doi: 10.1038/NPHOTON.2016.174, published September 19, 2016.

Social Archaeology in Taiwan

María Cruz Berrocal, Department of History and Sociology

I have been conducting field work in Taiwan since 2011, but never was the experience so socially-embedded, so to speak, as from September to November 2016, when my team and I conducted a long campaign of excavations at what is now "our" site, Heping Dao, in Keelung, northern Taiwan.

It was an intense work season, because we were allowed to open a large area for the first time, as opposed to the previous limited test pits of the previous season. The political situation in Taiwan has changed dramatically since the Democratic Progressive Party defeated the Kuomintang in the elections in January 2016, and subsequently, some of the major cities have also been won by the DPP, among them Keelung. The change is already noticeable, and hugely positive for us. The local representative of the neighbours was also replaced in the course of these political changes and he, together with the Cultural Bureau of the City Council, supported optimum conditions for our work in 2016.

The archaeological findings matched the positive atmosphere, and we now know that we have found the first real "global" spot in Asia-Pacific in the 17th century. The human remains we unearthed show people came from almost everywhere at that early time. Apparently, that "minimum" place, which however also bear witness to the monumental undertakings of the Spanish crown in its colonial endeavours, has preserved important remains of the church. Both a graveyard and church are unique findings in Asia-Pacific, the earliest and first ever recorded.

Reports on us have appeared in the major newspapers and on TV new programs in Taiwan, as well as in the main newspaper in Spain. We have received the visits from many researchers from Taiwan and abroad, as well as from the city mayor, who was extremely excited to see the remains and the possibilities of musealization as a contribution to the ambitious Cultural Resource Management program he wants to implement in Keelung. The idea is to highlight the international networks that the city has supported throughout history. Our excavation offers the earliest material remains of such networks.

For us however, one of the greatest aspects in the social dimension of our work within the community is our collaboration with the schools. Public schools from Keelung, the American School in Taipei, and Erxin School, also in Keelung, have invited us to speak to their students and brought the children to the site. It is amazing to see how interested they are in the past and even in the technicalities of our work! It is always good for children to have a sense of their past, which was interesting and important, and more so in a socially deteriorated area like Hoping Dao. Our work in recent years has been rewarded by spectacular scientific findings, but I choose to conclude this statement with a drawing by a child from the Erxin School. The children, ages 8-10, came to the site and shared their own ideas.

Summer School in Tame Geometry

Panteleimon Eleftheriou, Department of Mathematics and Statistics

The Summer School in Tame Geometry (co-organizers: Salma Kuhlmann, Daniel Plaumann, Jonathan Pila, and Margaret Thomas) was an international event with over 70 participants, including distinguished scholars and multicultural students, which was funded by the prestigious Volkswagen Science Foundation. The topic was model theory, and, in particular, tame geometry and its applications. The school offered an introduction to the three main levels of tame geometry: real algebraic geometry, o-minimality, and tame expansions of o-minimal structures. Three tutorials corresponding to these topics and their applications were given. Additionally, two more tutorials were specifically devoted to applications, namely definable groups, and the Pila-Wilkie theorem and Diophantine applications. The tutorials were ideally extended and complemented by one-hour survey lectures, all given by top experts in the field. Short talks and poster sessions enabled students and postdoctoral researchers to present their results and get invaluable feedback from the experts. The event had an interactive website, where questions, comments and slides from the lectures were posted in real time. All tutorials and lectures were further video-recorded by the media office of the University of Konstanz and can be accessed on the University's website.

The summer school was a great success. A total of 73 participants from 15 different countries registered. There were 34 PhD students, 6 master's students, 15 postdoctoral researchers and 18 professors. The female participants were 19 in total, corresponding to 26% of all participants, an unusually high percentage for the field of mathematics. Among the speakers were some worldwide leading experts in the field: Prof. Anand Pillay, University of Notre Dame, USA, is one of the founders of o-minimal geometry and has built the foundation for many applications of model theory over the last forty years. Prof. Ya'acov Peterzil, University of Haifa, Israel, is one of the recipients of the prestigious Karp Prize for his contributions to o-minimality and its applications to number theory, awarded by the Association for Symbolic Logic every five years. Prof. Claus Scheiderer, University of Konstanz, is a world leading expert in real algebraic geometry.

The interaction between young researchers and leading experts was ideal. We held two poster sessions and two sessions for short talks, where 11 PhD students, one master's student and one postdoctoral researcher presented their work and received invaluable feedback. We also held problem sessions during the afternoons, where homework and open questions were worked out by the students in the presence of the leading experts. We made every possible effort to accommodate the best local and scientific conditions to promote the subject of tame geometry and its applications among the young scholars. The event took place on the excellent premises of the University of Konstanz. Lectures, problem sessions, poster sessions, coffee and lunch breaks, reception, excursion and conference dinners were all focussed on the same goal: To bring students in contact with the leading experts, enhance their networking opportunities and advance their research. I believe we more than succeeded!

‘Buy It to Believe It’. The History of Advertising in 20th Century Italy, from the Belle Époque to Berlusconi

Bianca Gaudenzi, Department of History and Sociology

Based on extensive archival research and written in collaboration with fellow consumption historians Ferdinando Fasce (University of Genoa) and Elisabetta Bini (University of Trieste), our new book, "Comprare per Credere. La pubblicità in Italia dalla Belle époque a oggi" [Buy it to Believe it. Advertising in Italy from the belle époque to the present], Rome: Carocci, 1st edition May 2016, 2nd edition September 2016, provides an original reading of the history of 20th century Italy based on the development of advertising and commercial culture. From the heights of fin-de-siècle poster art and Futurist experimentations through state-mandated campaigns for Ersatz products during the Fascist Ventennio, the consumer frenzy of the "economic miracle", the oil crisis of the 1970s and up to the exploits of media tycoon and ex-Prime Minister Silvio Berlusconi and the "end of history", the volume takes an interdisciplinary approach that combines business and cultural history, gender and visual studies, art history and consumer studies in order to highlight the central shifts in Italian – and in many instances European – history during the course of the "Age of Extremes".

The book offers a concise and informative interpretation of these developments and of the latest historiography on the subject through a careful analysis of the development of the advertising industry – especially the main advertising campaigns, their creators and the products advertised – in order to assess the impact these had on Italian society over the course of the 20th century.

Comprare per credere. La pubblicità in Italia dalla belle époque a oggi (with Elisabetta Bini and Nando Fasce), Rome: Carocci 2016.

The Birth of Iron Oxides

Denis Gebauer, Department of Chemistry

Iron oxides – known to us all as rust – actually constitute a diverse chemical compound occurring in different forms with numerous applications. For chemists, a major task is to tailor their structure, size on the nanoscale, and morphology toward optimal performance in functions such as contrast agents for medical imaging or catalysts in chemical reactions.

When it comes to controlling material properties by chemical means, it is obvious that the "birth" of particles from their dissolved chemical constituents, i.e. iron ions in water, is the key step. A corresponding theory has been known for 100 years, but especially in the case of iron oxides, its applicability has been highly debated. This essentially is due to the fact that this theory is based on the physical properties of the nascent particles, while the underlying chemistry is largely neglected. The latter is especially critical in view of the high reactivity of iron ions in aqueous environments, which also makes the detailed experimental exploration of the different stages of particle formation highly challenging.

The clue to overcoming this problem is to access the distinct stages of particle formation by providing homogeneous mixing conditions for the chemical precursors at low concentrations, while applying very slow mixing rates. To that end, an experiment was developed (see the picture) in which mixing was achieved that is 1000-times slower than in previous settings. This, in combination with the parallel implementation of multiple analytics, made it possible to separate the distinct stages of particle formation, and elucidate the underlying molecular mechanisms. The results demonstrate that the process of iron oxide formation cannot be understood based on the classical theory, and that the chemistry of iron is, in fact, most important. Mechanistically, the process follows the notions of the so-called pre-nucleation cluster pathway, developed in recent years in the Gebauer group.

Original Publication
The Molecular Mechanism of Iron(III) Oxide Nucleation (with Johanna Scheck, Baohu Wu, Martin Drechsler, Rose Rosenberg, Alexander E. S. Van Driessche and Tomasz M. Stawski), in: *The Journal of Physical Chemistry Letters*, Vol. 7, p. 3123-3130, doi: 10.1021/acs.jpclett.6b01237, published July 28, 2016.

Spotlights
The Journal of Physical Chemistry Letters, Vol. 7, p. 3294-3294, doi: 10.1021/acs.jpclett.6b01782, published August 18, 2016.

Fragments of Discourse

James Griffiths, Department of Linguistics

My research project at the Zukunftskolleg, which started in April 2016, focusses on the phenomenon of ellipsis in natural language. Roughly speaking, we observe ellipsis in fragmentary utterances which, when encountered without any discourse context, are unacceptable, yet with sufficient context are judged to be fine. An example is "I reckon John": this utterance cannot be used to initiate a conversation, yet it is perfectly acceptable as an answer to "who will win?". As an answer to this question, "I reckon John" is understood as "I reckon John will win", and so it seems as though, in elliptical utterances, redundant words go missing. (Specifically, "will win" appears to go missing in the example provided above.) Ellipsis is clearly context-dependent, and yet it also affects the grammatical status of natural language utterances. For many decades, linguists have attempted to tease apart what aspects of well-formed fragmentary utterances can be attributed to satisfying pragmatic and semantic conditions on licensing ellipsis, and what aspects can be attributed to satisfying grammatical (i.e. syntactic and morphological) conditions. Teasing these things apart is important because, by doing this, linguistics may refine their notions of what these extra-grammatical and grammatical conditions actually are, and discover the extent to which they interact. My project tackles these issues by examining peripheral instances of ellipsis – i.e. those elliptical utterances which have either received scant attention in the literature or which have proven troubling in the past and have therefore been left aside for many years. Since April 2016, my research has focussed on a dataset from English in which verb phrase ellipsis is observed. The relevant utterances also contain a question word (who, what, where, etc.) which is interpreted as the direct object of a missing verb. An example is provided in (1) below, in which who, although outside of the ellipsis site (which is greyed-out), is interpreted as starting life within it, as the direct object of kiss.

Sentences such as (1) are judged to be unacceptable by native speakers. In the previous literature the explanation for (1)'s unacceptability has been attributed to the fact that a larger phrase than just 'kiss' can go missing: the phrase 'he did kiss' can also go missing, which derives the acceptable utterance in (2).

(1) John kissed someone, but I don't know who he did kiss.
(2) John kissed someone, but I don't know who he did kiss.
(3) Pete knows the girl who John kissed, but he doesn't respect the girl who he did kiss.

This explanation is encapsulated in a rule called MaxElide. This is a grammatical rule which states that ellipsis is prohibited in a phrase α if a bigger phrase that includes α can also be elided. While this rule captures the data, the reason for its existence is mysterious: why should a natural language grammar include such a rule? Why should we be banned from uttering redundant material in only this linguistic environment and not others? My research on this topic has shown that MaxElide cannot be a rule of grammar. Among other things, this is because uttering phrases such as 'who he did' in (1) results in unacceptable sentences even when no bigger elidable phrase is present. This is observed in (3). In this sentence, we can't elide the bigger phrase 'he did kiss' and derive an unacceptable utterance (as I allow the reader to confirm).

I have shown that, instead of appealing to the bespoke MaxElide rule, the unacceptability of (1) and (3) should be attributed to the fact that these utterances fail to satisfy an independently-motivated constraint on organising discourse and recovering the correct meaning from ellipsis sites. This conclusion is a welcome one, as it not only allows us to discard the sui generis MaxElide rule, but provides a novel insight into how the labour for licensing ellipsis is split between our syntactic grammar and the discourse context. (In the case of (1) and (3), the discourse context is responsible for precluding ellipsis).

My research into the 'MaxElide dataset' has now been written up in article format, and will be submitted to a top-tier linguistics journal within the coming weeks. The journal article has been shaped by useful comments provided to me at the three conferences on ellipsis I have presented this research at since April 2016 (in Sarajevo in June, in Poznań in September, and in Saarbrücken in October).

Modeling, Estimating and Forecasting Risks

Roxana Halbleib, Department of Economics

My research during the last two years concentrated mainly on using simulation-based estimation methods to solve difficult or intractable estimation problems is economics. Among these methods, the Indirect Inference method, introduced by Gouriéroux, Monfort and Renault (1993), Smith (1993) and Gallant and Tauchen (1996), estimates the parameters of the intractable model of interest by minimizing a distance metric between the estimates of the parameters of a tractable auxiliary model applied on real and simulated data.

In 2014 I organized a small, but high-powered conference at Abbey Hegne in Allensbach to commemorate the 20th anniversary of the seminal papers on Indirect Inference. The conference was attended by about 20 well-established researchers in the field, including the cofounders of the method, and aimed at disseminating new research in the field, as well as innovative theoretical and computational views.

As a result of the conference, together with Eric Renault (Brown University), Dennis Kristensen (University College London) and David Veredas (Vlerick Business School), I have been editing a special issue on Indirect Estimation Methods in Finance and Economics in the Journal of Econometrics, which is a high-ranked (A) journal in Econometrics. The special issue is to provide new theoretical and empirical research results in the field of simulation-based estimation techniques.

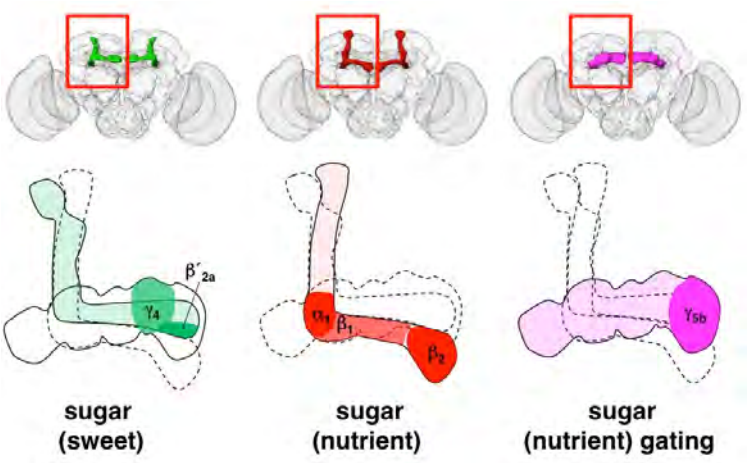
Food for the Brain

Wolf Hütteroth, Department of Biology

Like most animals, fruit flies have the ability to memorize associated stimuli. Interestingly, some memories last for over a day, while others decay within a few hours. Sugar presentation for two minutes together with an odour leads to long-lasting memory of this kind, while electric shock punishment paired with odour is quickly forgotten. In both cases, a central structure in the fly brain is involved, the so-called "mushroom bodies" (Figure, top row). Here I looked at the reinforcing properties of sugar on the network level.[1]

3D reconstructions and schematic of the "memory center" of *Drosophila melanogaster*

The mushroom body (upper row, highlighted in color) is regarded as the homologous structure to the vertebrate pallium in protostome brains like the fruit fly brain (transparent grey). It consists of Kenyon cells (KCs), organized in three main subsets: the α'β' lobes (green), the αβ lobes (red), and the horizontal-only γ lobe (magenta). The innervations of additional extrinsic mushroom body neurons partition the lobes into functional zones (i.e. the marked regions in the bottom row), which serve distinct functions for sugar reinforcement.



Sugar has two different reinforcing properties, and dopamine is involved in both

Work by my previous lab demonstrated that long-lasting memory formation using sugar reward requires a signal from sweet taste and an independent signal representing nutrient value.[2] Sweet taste alone leads to rapidly decaying memory, whereas nutrient value is required for robust long-lasting memory. Subsequently, we found a layered system of two biogenic amine neurotransmitters: octopamine acting through dopaminergic cells to provide the short-term reinforcing effect of sweet taste. Moreover, dopamine conveys the long-term reinforcing effects of nutrient value, proving that dopamine as a reward is conserved between flies and vertebrates.[3]

Different sugar rewards are mediated by distinct dopamine circuits

Building on these findings, I set out to identify and map the different reinforcing dopamine neurons that innervate the mushroom body. Dopamine neurons divide the mushroom body into separate zones. By artificially activating and silencing these cells, I identified three distinct zones where dopamine was either sufficient for implanting short-term memory, sufficient for implanting long-lasting memory, or where it was required for both (Figure, bottom row). We further determined that short-term memory can be implanted independently of satiety state, whereas long-term memory acquisition and retrieval is hunger state-dependent. Together these findings support the idea of individual reinforcement properties encoded in identifiable, separate regions.

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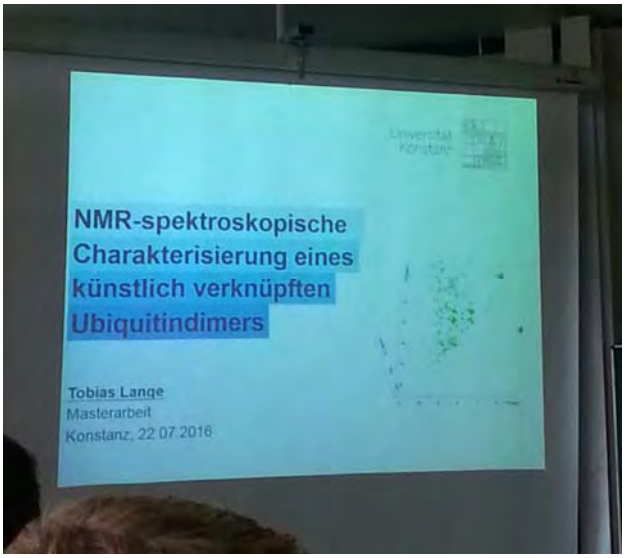
1 *Sweet Taste and Nutrient Value Subdivide Rewarding Dopaminergic Neurons in Drosophila* (with Emmanuel Perisse, Suewei Lin, Martín Klappenbach, Christopher Burke, and Scott Waddell), in: *Current Biology* 2015, 25(6), p. 751-758, doi: 10.1016/j.cub.2015.01.036, published March 16, 2015.

2 *Remembering Nutrient Quality of Sugar in Drosophila,* (Christopher J. Burke and Scott Waddell), in: *Current Biology* 2011, 21(9), p. 746–750, doi: 10.1016/j.cub.2011.03.032, published: May 10, 2011.

3 *Layered Reward Signalling through Octopamine and Dopamine in Drosophila* (with Christopher J. Burke*, David Owald, Emmanuel Perisse, Michael J. Krashes, Gaurav Das, Daryl Gohl, Marion Silies, Sarah Certel, and Scott Waddell), in: *Nature* 2012, 492 (7429), p. 433-437, doi: 10.1038/nature11614, published October 28, 2012.* equal contribution.

Supervision of a Master’s Thesis

Michael Kovermann, Associated Fellow, Department of Chemistry



In August 2015 I established my own research group within the Department of Chemistry at the University of Konstanz after being appointed junior professor for "magnetic resonance spectroscopy on complex molecular systems" and simultaneously heading the local NMR centre. In September 2015, I got in contact with an extremely talented master’s student in "Life Science": Tobias Lange. In October and November 2015, he strongly supported the establishment of the biomolecular wet lab and supervised the accurate installation of all equipment needed for successful expression and purification of soluble proteins. He then began his master’s thesis in my lab on: "NMR spectroscopic characterization of an artificially conjugated ubiquitin dimer". His master’s thesis was embedded in a subproject headed by myself and organized under the Collaborative Research Centre 969 "Chemical and Biological principles of cellular proteostasis", hosted by the University of Konstanz. In the first weeks of his thesis, Tobias and I met and discussed the progress of the project almost daily. Our contact time gradually was reduced to two times a week and it was very interesting to see how Tobias was able to develop the ability to work more and more independently. In the last part of the experimental section of the thesis, the scientific discussions were "only" addressed in the weekly work group seminar.

At this point it is important to mention that I obtained very valuable, practical insight into supervising a final thesis in a master’s programme during this six-month period, including organizing and conducting regular, result-oriented scientific discussions. Importantly, directly supervising a thesis for the first time enabled me to develop skills in estimating a realistic time-line for conducting a final thesis in the natural science. Fortunately, the estimated time-line for this thesis was appropriate: Tobias obtained valuable scientific results and earned his master’s degree in "Life Science" in July 2016.

Uncovering the Molecular Mechanisms Underlying the Repeated Evolution of Adaptive Color Patterns in Cichlid Fishes

Claudius Kratochwil, Department of Biology

Biologists have always been fascinated by the variation in color patterns found in nature. Coloration is an important feature in the biology of an organism and plays a key role in several fundamental ecological and evolutionary processes, such as adaptation, sexual selection and speciation. Moreover, those conspicuous phenotypes challenge molecular and developmental biologist to try to understand their origin during the development (ontogeny) of an organism. Fish are well-known for this diversity of color patterns and cichlids are a particularly colorful family of fish, which is accurately described by their German common name "Buntbarsche", or "colorful perches". Body coloration plays many roles in cichlid evolution, including the two main evolutionary processes of speciation: sexual selection (e.g. mating preferences) and adaptation (e.g. camouflage). Many of the color patterns we find in cichlids have evolved repeatedly in different species. Still, little is known about the genetic changes that are necessary for generating these traits. What are the mechanisms that control the distribution of pigment cells along the body axis? How do aggregations of cells form dotted or striped patterns? Are the underlying genetic differences the same or similar across closely and distantly related species with similar patterns? Or are they "truly reinvented" and generated by novel molecular mechanisms?

In this project, supported by the Baden-Württemberg Elite Program and the Zukunftskolleg, I focus on understanding the repeated adaptive evolution of a coloration pattern within cichlids – a particularly species-rich and phenotypically diverse family of fish. Within this family, horizontal stripe patterns occur and evolved repeatedly in different lakes in the African Rift Valley. They are driven by ecological adaptations to similar habitat environments. Using the targeted genome sequencing of a genomic interval identified with forward-genetics within populations, and an in-depth analysis of its cellular and developmental bases using state-of-the art molecular techniques, including transgenesis, genome editing and chromatin immunoprecipitation, I aim to analyze the genetic and molecular basis of an ecologically well-described adaptive phenotype that evolved repeatedly within short evolutionary periods. Due to its Mendelian genetic basis (only one genetic locus is responsible for the trait), it is not only particularly well-suited for bridging the gap between genotype and phenotype, but also gives us the unique opportunity to provide the first clear insight into the genomic substrates of the repeated evolution of an adaptive trait in this famously diverse family of fish.

The Anseriform Genome Project

Robert Kraus, Associated Fellow, Department of Biology

The bird order Anseriformes contains 176 species in 56 genera of ducks, geese and swans, as well and the so-called related screamers and magpie goose. In terms of evolution, this clade is close to Galliformes, the bird order in which we place, for example, chickens and turkeys, and it is similarly important for the livestock industry, e.g. meat and egg production. One further major impact on human societies is exerted by the propensity of members of the Anseriformes to transmit zoonotic diseases, i.e. those that can cross the barriers between species, including humans. Avian influenza is the best known example and has its natural reservoir mainly in dabbling ducks. When jumping the species barrier to chickens or even humans, novel, mutated forms of this virus can cause severe economic losses in the poultry industry and even lead to human epidemics in which thousands of people may die.

Anseriforms are characterised by a semi-aquatic lifestyle and often rest in high densities in shallow waters. For example, ducks infected with seasonal avian influenza do not show symptoms of disease. However, they shed the pathogen with their faeces into the surrounding water, where infectious viral particles can persist for days and weeks and be ingested by other ducks while they forage, thereby spreading the disease further. In this natural host-pathogen system, an equilibrium is reached, in which the immune system of the host controls the pathogen, but the pathogen is able to perpetuate.

Within the Anseriformes, some species display higher susceptibility to, e.g. avian influenza, than others. While mallards, a species of dabbling duck, can carry the disease with no obvious disadvantages, the same viral strain can kill hundreds of swans. What are the genetic factors that contribute to the difference in immunological resistance? In what way were the immune genes of some species of Anseriformes shaped differently by evolution than those of others? To answer questions of this kind, I set up a research programme to perform comparative genomic analyses between the members of the Anseriformes. It is not known which immune genes precisely play a role. Therefore, we aim to take a holistic, whole genome approach, and I obtained a Mentorship Grant from the Zukunftskolleg in 2015. With this support, I was able to form a network with renown international peers active in bird genomics. I now have access to the international B10K programme, which seeks to sequence all >10,000 bird species of the world. By developing my ideas in this international context, I obtained funding to start the genome sequencing of multiple species of the Anseriformes in the course of 2017. As part of B10K, I visited the first international B10K workshop in Beijing and will get early access to some 300 unpublished bird genomes across the whole avian tree of life. This will extend my studies of immune gene evolution beyond Anseriformes, because a broader view of bird evolution will increase our understanding of the bird immune system and thus eventually provide novel perspectives on the biomedical, pharmaceutical and veterinary sciences and the development of drugs and therapies.

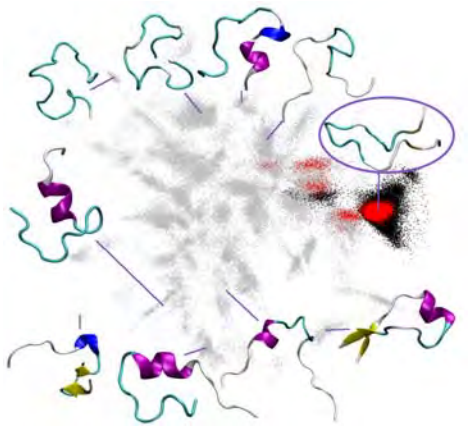
Using Dimensionality Reduction to Systematically Expand the Conformational Sampling of Intrinsically Disordered Proteins

Oleksandra Kukharenko, Department of Chemistry

The project I am working on during my fellowship concerns the folding problem for intrinsically disordered proteins and peptides (IDPs), which are involved in neurodegenerative diseases, such as Parkinson's disease and Alzheimer's syndrome. Their pathophysiologically behavior is presumably connected with conformational transitions: proteins change from their disordered state into a structurally more defined state. This is why we are concerned with characterizing the conformational space accessible to the α-synucline. We analyze its fragments by combining molecular dynamics (MD) simulations and mathematical methods.

The challenge in these systems is that they (as all IPDs) contain multiple long-lived stable/metastable states lacking a dominant global minimum. Their dynamics for transitions between different metastable configurations is slow because of the enormity of conformational space and the environmental influence (water/air interface), which even further stabilizes selected structures. One approach towards improving our ability to characterize biologically important processes and mapping out an underlying free energy landscape to obtain a convergent, statistically relevant picture of the dynamics, is to direct MD simulations to more rapidly explore molecular conformational phase space.

In our paper, we proposed a simulation strategy for IDPs that efficiently explores conformational space using the multidimensional scaling algorithm (sketch-map). One advantage compared to many other methods is that one does not need to have a general knowledge of the states. The algorithm is best suited, when one knows rather little about the conformations the system might eventually adopt, and if it is very complex, i.e. while the sampling is expanding, the picture of the conformational landscape of the system changes drastically. It allows us to project newly sampled areas to the known landscape in order to assess the expansion. At the same time, the two coordinates that the ensemble is projected into change adaptively, resulting in an optimal redistribution for evaluating sparsity and finding new points from where to expand. This distinguishes the method from other projection methods, where the a priori decision on the coordinates of the projection is a limitation.



Comparison of conformational spaces obtained after the application of the proposed simulation strategy (gray points) and classical MD (black points). Both simulations have the same length and were performed with the same computational costs. Red points: initial simulation (identical for both simulations). Circled structure was the most probable conformation "seen" by classical MD; some representatives of the conformational space sampled by the developed scheme are shown in insets.

Using Dimensionality Reduction to Systematically Expand Conformational Sampling of Intrinsically Disordered Proteins (with Kevin Sawade, Jakob Steuer, and Christine Peter), in: *J. Chem. Theory Comput.*, 2016, Vol. 12, p. 4726−4734, doi: 10.1021/acs.jctc.6b00503, published September 02, 2016.

Is Consciousness Nothing Else than Attention? Wilhelm Wundt on a Condition for Consciousness

Andrea Lailach-Hennrich, Department of Philosophy

Imagine you enter a crowded lecture hall. You are scanning the room for an empty seat and do not notice your friend is waving at you. Because your attention is drawn to something else, you fail to notice her call for attention, even though she might be right in front of you. One possible way of understanding this scenario would be to claim that the moment we pay attention to something, we become conscious of it; and the moment attention wanes, the object fades from our consciousness. In other words, attending to something is just a mode of being conscious of it. We are only conscious of something if we are attending to it and vice versa.

Indisputably, attention and consciousness are closely related. However, empirical findings challenge the nature of that relation. How should we describe the relation between attention and consciousness? Are they really two distinct processes or rather two sides of one coin? What is their functional role?

At the ESHHS (European Society for the History of Human Science) conference in July 2016, I presented a paper in which I analyzed some of the claims made in the current debate, thereby referring to Wilhelm Wundt's theory of consciousness[1]. Wilhelm Wundt (1832-1920) was a German philosopher, psychologist and physiologist. He is well-known for the claim that psychology should be acknowledged as an empirical science using experimental methods. Although Wundt is referred to as the "father" of modern empirical psychology, his theories are not viewed as a clarifying contribution to contemporary debates in psychology, mainly because of their general and partly ambiguous representation. Hence, in order to reintroduce him into the debates in philosophy of mind, I had to bring out a consistent interpretation of his theory. By elucidating his theory of consciousness, I showed that some of his theses are indeed useful for the modern debate on the relation between attention and consciousness. According to Wundt, consciousness has two different modes: a field of vision [Blickfeld] and a focal point [Blickpunkt]. Attention is then described as that psychological mechanism by which a psychological entity enters the focal point. Attention thus has a definite functional role and should be considered a sufficient condition for consciousness.

Through my paper I recalled the historical figure Wundt into the awareness of contemporary philosophers of mind.[2]

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1 *Outlines of Psychology* (Wilhelm Wundt), Leipzig: Wilhelm Engelmann, 1897.

2 *Wilhelm Wundt on Consciousness and Attention*, paper presented at the conference of the European Society for the History of the Human Sciences (ESHHS), Universität Barcelona (Spain), June 2016

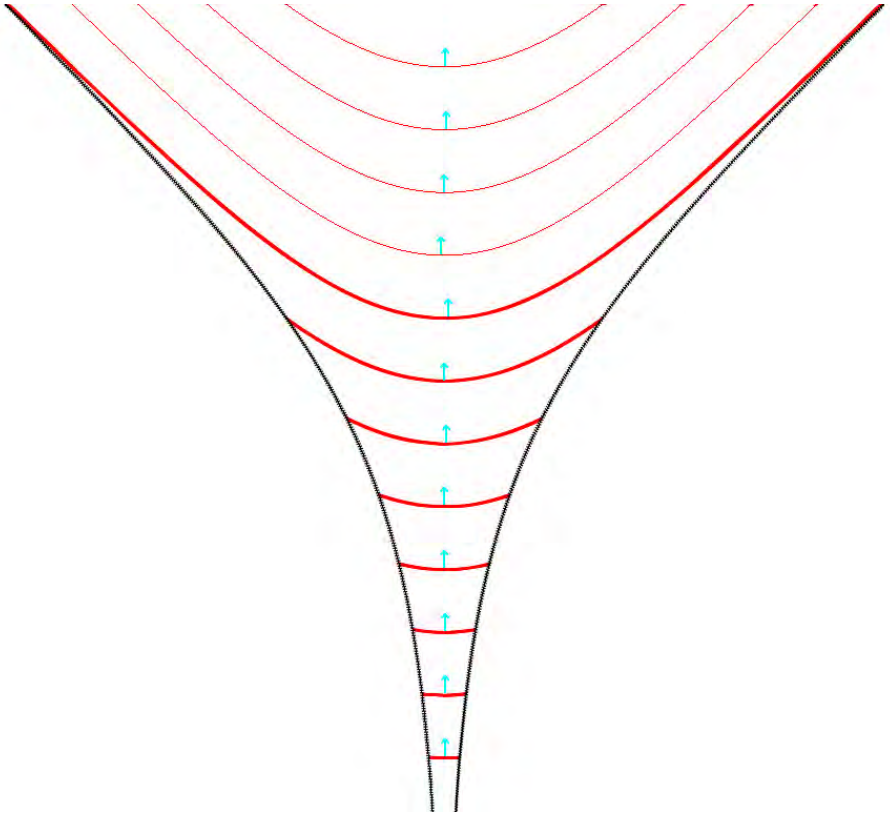
Boundary Conditions for Geometric Flows

Ben Lambert, Department of Mathematics and Statistics

Einstein's space-time may be written from a geometric point of view (as a so-called semi-Riemannian manifold), and one tool used in trying to understand such space-times is to consider the so-called maximal surfaces in this space. In a recent paper, I demonstrate that mean curvature flow (a way of deforming surfaces) may be used to construct maximal surfaces with certain boundary conditions.

Below is a terrifying picture of what we do not want to happen with mean curvature flow in a simple flat space-time (two dimensional Minkowski space). The red curves show the "Grim Reaper solution" to mean curvature flow, so called because it translates though the plane, killing off solutions to mean curvature flow. The black lines are the so called "Death's Trumpet", which has been chosen so that it is at a (Minkowski) right angle to the flowing Grim Reaper solution at every point. However, we see that as the red curve moves upwards, the curve after time t=? has points with a gradient of almost 1, i.e. it becomes almost light-like. This throws a spanner in the mathematical works, as one of the key estimates we require for a mean curvature flow to exist (in general) is a so-called gradient estimate – this is roughly the statement that a flowing solution to mean curvature flow stays strictly far away from being light-like. The Death's Trumpet shows highly singular behaviour for a flow with boundary, and if we want the flow to converge to a maximal surface, we need to assume some conditions that disallow this example.

This frightening picture and also some general conditions are published in a paper in "Manuscripta Mathematica".



Construction of maximal hypersurfaces with boundary conditions, in *Manuscripta Mathematica*, doi: 10.1007/s00229-016-0896-1, published online first, November 4, 2016.

Questions about Questions

Sven Lauer, Department of Linguistics

What is a speaker of English doing when she asks a question? That is, what is a speaker doing when she utters a sentence that has an interrogative form, like *Will John come to the party?* At first, the answer may seem obvious: Interrogative sentences are devices for requesting information. So, presumably, interrogative sentences are grammatically specified to function as such requests. But what does that mean? We may try to spell this out as follows: When a speaker requests information by uttering *Will John come to the party?* her utterance conveys the following three things to the hearer:

(i) The speaker does not know whether John will come to the party.
(ii) The speaker thinks that the hearer is likely to know whether John will come to the party.
(iii) The speaker would like the hearer to see to it that the speaker knows whether John will come to the party.

A first hypothesis would then be that (i)—(iii) are part of the linguistic meaning of the sentence *Will John come to the party?* But this hypothesis is immediately called into question by the fact that speakers often utter (or write) interrogative sentences without conveying these three things: If a chemistry teacher asks a student, *What is the formula for sulfuric acid?,* she does not convey that she does not know what the formula is, or that she wants the student to see to it that she knows what the formula is. Her interrogative utterance has a different function, yet it still counts as a question. Or consider the first sentence of this piece. It might be taken to indicate that we don't (yet) know what a speaker does when she asks a question, but it certainly does not convey that, you, the reader, are likely to know the answer, nor does it count as an exhortation to see to it that I, the author, know it. This sets up an intricate theoretical tension: On the one hand, interrogative sentences, in many contexts, are excellent devices for conveying implications like the ones in (i)—(iii). On the other hand, none of these implications can be part of the linguistic meaning of the sentence, as we find literal uses of interrogative sentences that lack any or all of them.

An analogous question arises for any other sentence type, such as declaratives (*John will come to the party*) or imperatives (*Come to the party, John!*). In the last decade or so, detailed analyses have been put forward for these, showing how the puzzling diversity of possible uses arises from the complex interplay of linguistically-coded meaning and features of the context. But little is known about the "questioning force" of interrogatives. This lacuna will be filled in the project *What is it to ask a question? – A formal pragmatic investigation of interrogative force*, funded by the Deutsche Forschungsgemeinschaft (DFG) as part of the Emmy-Noether programme. Starting in October 2016, the members of my junior research group began working to develop a detailed and formally explicit answer to the intricate question of what it is to "ask a question".

Photoprotection in Diatoms

Bernard Lepetit, Department of Biology

Photoprotection is an important issue, as it allows plants and algae to survive under conditions of high light exposure, which otherwise would eventually burn the cells. Diatoms, an ecologically highly relevant group of eukaryotic microalgae, rely heavily on a photoprotection mechanism called NPQ. NPQ is based on the light intensity dependent conversion of the pigment diadinoxanthin into the pigment diatoxanthin. In the dark, diatoxanthin becomes back converted into diadinoxanthin and NPQ is switched off. A few years ago, specific antenna proteins, called Lhcx, were demonstrated to be involved in NPQ. In order to deepen our understanding of the interplay between diatoxanthin and Lhcx proteins, we aimed to create strains of the diatom *Phaeodactylum tricornutum* without Lhcx1. To achieve this goal, we had to implement a new genome editing technique, TALEN, in diatoms. We were successful and obtained several strains in which Lhcx1 protein was absent (Lhcx1-KO strains) (Fig. 1). These strains completely lacked NPQ capacity (Fig.2) when cultivated under low light conditions. Moreover, when we blocked the conversion of diadinoxanthin into diatoxanthin in wildtype (Wt) cells, the Wt also completely lost NPQ capacity and the NPQ trace became essentially the same as in Lhcx1-KO cells. This proved that *P. tricornutum* needs both compounds, Lhcx1 and diatoxanthin, to the same extent and only together can they confer NPQ.

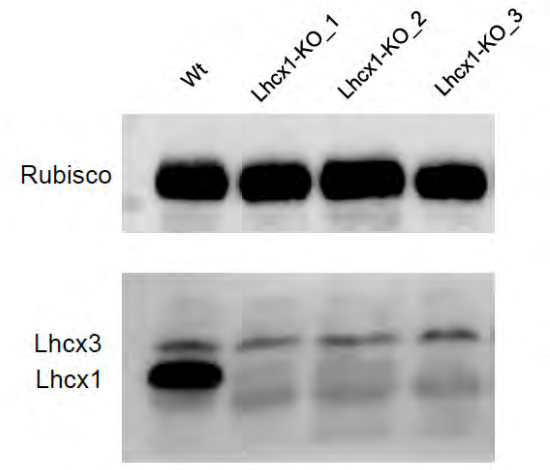


Figure 1: Lhcx1 protein amount of *P. tricornutum* Wt and three Lhcx1-KO strains detected by Western blot with an antibody against Lhcx1 and Lhcx3. As a loading control, Rubisco was detected by an anti-Rubisco antibody. The Lhcx1 protein is absent in the Lhcx1-KO strains.

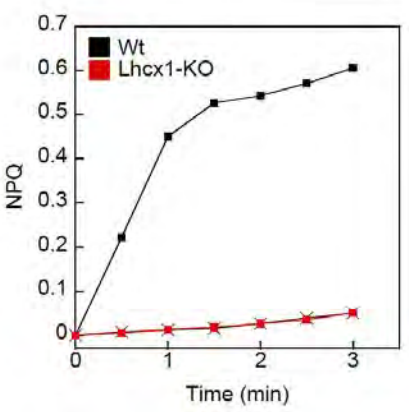


Figure 2: NPQ amount during three minutes of high light exposure in *P. tricornutum* Wt and Lhcx1-KO strains. WT cells were additionally treated with DTT (black crosses, trace partially hidden behind the red Lhcx1-KO trace), which prevents the formation of diatoxanthin during high light exposure. The Lhcx1-KO strain shows no NPQ, as do Wt cells when they cannot form diatoxanthin.

For future work on these mutations, I obtained funding from the DFG. In this project, we want to investigate the ecological impact of NPQ by comparing the growth of Wt and Lhcx1-KO strains under simulated natural light conditions, exploring the biochemical implications of the Lhcx1 protein on the structure of the diatom chloroplast and further elucidating the mechanistical aspects of Lhcx1 and diatoxanthin teamwork in providing NPQ.

Making Natural Language Semantics Bear on Philosophical Questions about Ontology

Doris Penka, Department of Linguistics

My research project at the Zukunftskolleg is concerned with the interpretation of expressions that intuitively determine a quantity, for example many or at least 100. In contrast to the standard analysis of the semantics of such quantifying expressions, which uses a unified interpretation scheme for different expressions, the project aims at developing an adequate analysis for each expression in a case-by-case fashion, taking the morphological make-up seriously.

When philosopher and research fellow Brendan Balcerak Jackson and I met at the Zukunftskolleg, we soon realized that his research has close connections with my project. Brendan has worked on the question of what the investigation of natural language sentences can contribute to philosophical questions about ontology, in particular concerning the existence of abstract objects such as numbers. Reflecting on the question of whether numbers exist has led many philosophers to examine natural language sentences like the following:

(1) The number of moons of Jupiter is four.

(2) Jupiter has four moons.

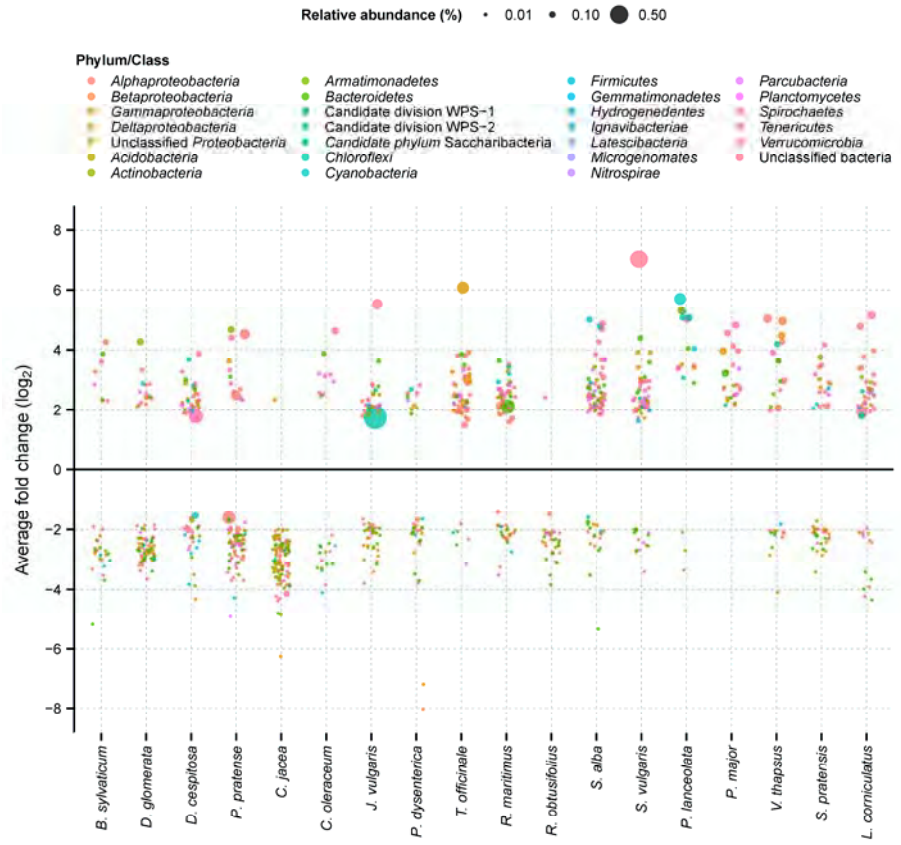
Sentence (1) seems to imply the existence of the number four and thus makes an ontological commitment to numbers. Sentence (2), in contrast, does not appear to require the existence of the number four. And yet, the two sentences seem to be semantically equivalent, just another way of saying the same thing. Various ways of responding to this puzzle have been discussed in the philosophical literature.

By bringing together our individual research strands, Brendan and I were able to bring a new spin to this debate. In an article to be published in the journal "Linguistics and Philosophy", we show that under the analysis I have worked with in my project, the word "four" is interpreted as the name of a number – both as it occurs in sentence (1) and sentence (2). In consequence, the ontological commitment of both sentences is the same: Both require the existence of numbers. This provides a simple resolution for the puzzle. But this analysis also raises important new questions, which are both for linguistics and metaphysics. By drawing attention to these questions, we hope to encourage a shift in the way we think about the role of natural language semantics in exploring the ontology of numbers, and in philosophical metaphysics more generally.

Plant-Soil Feedback Involves Plant Species-Specific Changes in only a Small Minority of Rhizosphere Bacterial Taxa

Michael Pester, Department of Biology

Plant performance is tightly connected to the soil microbiota. In turn, plants influence soil microorganisms through rhizodeposits. This "plant-soil feedback" is purported to be plant species-specific and an important mechanism driving plant community dynamics. However, the extent to which changes in microbial community composition is plant species-specific is not yet known. We used 19 herbaceous plant species from five plant orders to test whether plant conditioning of a common soil resulted in plant-specific changes in the rhizosphere bacteriome. Total DNA from soils before and after conditioning was subjected to 16S rRNA gene amplicon sequencing and quantitative PCR. 9-13% of bacterial species-level taxa responded significantly across all plant species. Most prominent common responders were members of the little-explored phyla Chloroflexi and Parcubacteria. Only a minority of rhizosphere bacteria responded either positively (ca. 1%) or negatively (ca. 1%) to specific plants. Plant-specific positive responders comprised mainly rare biosphere bacteria, highlighting that low-abundance populations are metabolically active in the rhizosphere. Our study provides a quantitative assessment of the soil conditioning effect of plants across multiple plant orders. Plant species-specific effects on soil bacterial communities involved only 18-111 bacterial taxa out of several thousands; this minority may potentially impact plant performance in plant-soil feedbacks.



Bacterial operational taxonomic units (OTUs) that responded significantly by relative abundance change according to one plant species only (plant-specific responders). Each point represents an OTU with the size of the points being proportional to the mean relative abundance of OTUs in the plant-specific soils after conditioning. Point colours indicate the taxonomic affiliation of plant-specific responders.

Plant-Soil Feedback Involves Plant Species-Specific Changes in only a Small Minority of Rhizosphere Bacterial Taxa (with Wayne Dawson, Jens Hör, Markus Egert, and Mark van Kleunen), under review.

Superconducting Spintronics – A Marriage between Opposing States of Matter

Torsten Pietsch, Department of Physics

We are on the verge of a new technological era, in which quantum or wave-based computing technologies are creating a paradigm shift in information processing, based on the exploitation of quantum-physical transport phenomena in complex nanostructures. For example, in nanostructures composed of superconducting and magnetic materials, dissipationless and coherent transport of spin- and charge may be possible over large distances, enabling novel superconducting spin-electronic devices.

However, there is a problem: Superconductivity and ferromagnetism are often viewed as antagonistic phenomena. The competition between superconductivity and ferromagnetism originates in their opposing spin-order and manifests itself in the response of both phenomena to magnetic fields. While a superconductor (S) repels the magnetic field via the well-known Meissner-Ochsenfeld-Effect, a ferromagnet (F) concentrates the magnetic flux in its volume.

The foundation of realizing the vision of superconducting spin-electronics lies in the controlled generation and manipulation of spin-carrying supercurrents in S-F heterostructures, which are extremely interesting for superconducting spintronic applications, since they propagate over long distances and can interact with magnetic fields.[1] The basic concept behind this fascinating idea is explained in our educational film hosted on Beilstein TV.[2]

Over the past two years, our group has explored the fundamental mechanisms of spin- and charge transport across S/F interfaces in nanostructures. We studied different device geometries and material combinations and established that a spin-supercurrent can be created by various means, including non-collinear magnetic order[3] at the interfaces as well as temporal magnetisation changes. Initial experimental evidence of the latter mechanism came from master's projects recently completed in our group by M. Rudolf and M. Thalmann. This new concept will be explored in ferromagnetic Josephson junctions (see Figure) in a new research project starting in fall 2016 with financial support from the DFG. The core idea is to excite spin-waves in a ferromagnet, driven by a ferromagnetic resonance, to convert singlet cooper pairs in the superconductor to spin-carrying triplet pairs in the ferromagnet. If we succeed, the dynamic excitation of spin-supercurrents in S-F heterostructures, a core aspect of the vision of super-conducting spintronics, will become possible.

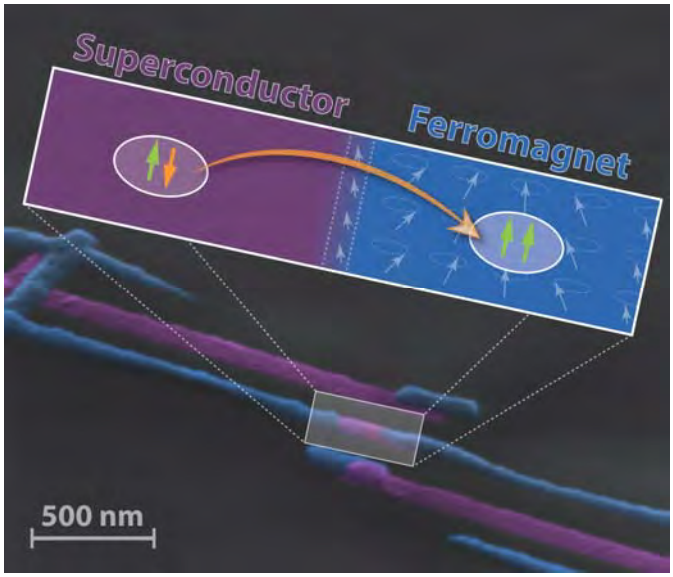


Illustration of the conversion mechanism of singlet to triplet cooper pairs via magnon scattering at a superconductor normal metal interface in a ferro-magnetic Josephson junction.

1 Linder, J.; Robinson, J. W. A. *Nature Physics* 2015, 11, (4), 307-315.
2 http://www.beilstein.tv/tvpost/superconducting-spin-electronics/
3 Di Bernardo, A. et al., *Nature Communication* 2015, 6, 8053 (1-8).

A Ruthenium Racemisation Catalyst for the Synthesis of Primary Amines from Secondary Amines

Dennis Pingen, Department of Chemistry

In this publication, the so-called splitting of secondary amines with ammonia is described. This reaction normally is not feasible, as secondary amines are very stable and not susceptible to nucleophilic attack by ammonia. For this reason, the reaction from secondary to primary amines needs to be catalyzed. It was found that a Ruthenium complex, known for its isomerization activity, was capable of catalyzing this reaction. The complex consists of an anionic cyclopentadiene ring, an anionic chloride ligand and two neutral carbonyl moieties. These types of complexes are known as half-sandwich complexes (Figure 1:). The importance of the reaction can be found in the primary amine importance. These types of molecules can be employed as building blocks for medicines, polymers and pesticides. However, the secondary amine is often a by-products in the synthesis of primary amines, and therefore it is desirable to convert this back to the primary amine, so that it does not have to be considered as waste.

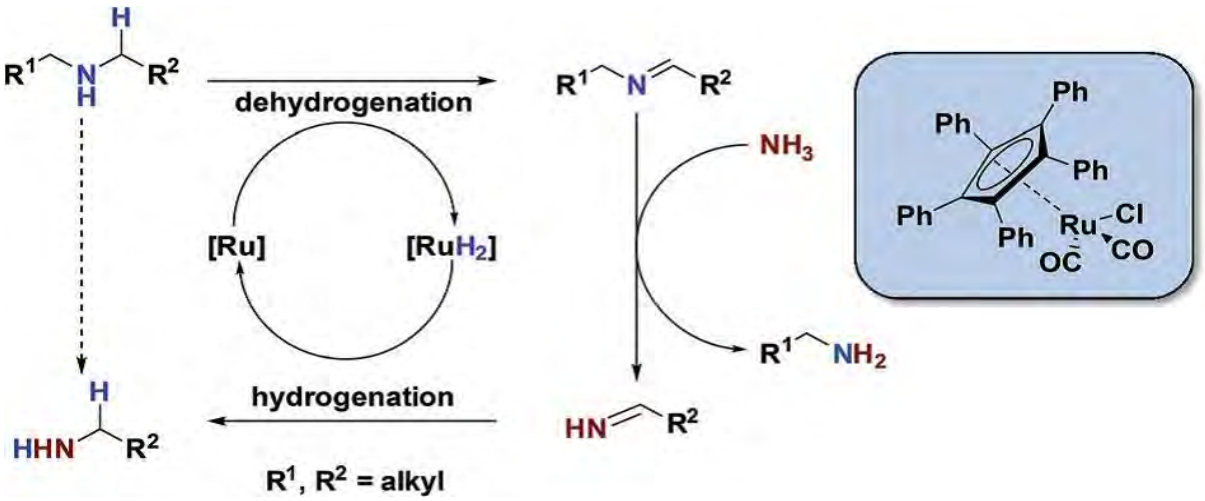


Figure 1: The splitting of secondary amines to primary amines employing a ruthenium half-sandwich complex and ammonia, the reaction follows the so-called hydrogen shuttling mechanism.

Employing this catalyst, a broad variety of secondary amines was split into the corresponding primary amines at an elevated temperature of 170°C. However, it was noticed that the conversion of the secondary amines never exceeded 80%, which is rather peculiar. Studying the effect of ammonia, secondary amines and primary amines on the catalyst and the catalyst structure, revealed that the complex most likely was diminished by a high concentration of primary amine. The reaction was in situ followed by various techniques such as IR under ammonia pressure, ^{13}C NMR in the presence of ammonia and varying the primary amine concentration. It was concluded that at a catalyst to primary amine ratio of 1:10, the primary amine appeared to attack the catalyst. In this reaction, one of the carbonyls reacts with the primary amine, forming a carbamoyl complex. It is not known if this complex is still sufficiently active to proceed with catalysis. However, the second carbonyl also reacts with the primary at some point resulting in complete breakdown of the complex. This eventually stops the entire catalytic cycle and no continued conversion can be observed. The carbamoyl complexes formed where confirmed by ^{13}C NMR, IR, and mass spectrometry.

As the breakdown of the catalyst already starts at 10 equivalents of primary amines without the presence of secondary amine or ammonia, it is likely that several equilibria (for instance with the secondary amine or ammonia) hamper the degradation. However, at some point during catalysis, the concentration of primary amine is simply too high to prevent complete degradation.
Replacing the carbonyl moieties with PPh_3 is not feasible; It unfortunately led to an inactive complex in the splitting of secondary amines.

A Ruthenium Racemisation Catalyst for the Synthesis of Primary Amines from Secondary Amines (with Cigdem Altintas, Max Rudolf Schaller, and Dieter Vogt), in: *Dalton Transactions* 2016, Vol. 45, p. 11765-11771, doi: 10.1039/C6DT01525E, published June 10, 2016.

The Judicial Pluralism of the European Constitutional Community: A "Babel of Courts" or "Courts for Babel?"

Maria Daniela Poli, Department of Law

One of my greatest achievements in 2016 was the publication of my article, "Der justizielle Pluralismus der Europäischen Verfassungsgemeinschaft: "Babylonische Gerichte" oder "Gerichte für Babylon?" [The Judicial Pluralism of the European Constitutional Community: A "Babel of Courts" or "Courts for Babel?"] in "Der Staat", a German journal for the theory of the state, constitutional history and German and European public law, and a very important journal for my field of research. The essay discusses judicial pluralism and was developed from a talk I gave at the University of Konstanz on 2 December 2015 (Kolloquium der Öffentlich-Rechtler).

The article deals with the concept of judicial dialogue as well as the dimensions and modalities (i.e. actors, categories and forms) that characterize this phenomenon. In fact, although the judicial dialogue in Europe is nowadays a fashionable topic and is polarizing the attention of the scientific literature, there is no lack of criticism. The criticism is directed not only at the correct terminology for describing the dialogue, but also its function, and in some cases, its existence. The article is in this sense an attempt to shed some light on a dark place. Given all of this, the question is whether the current judicial pluralism can do without a hierarchical logic, substituting a dialogical logic based on a community of values. Should we, on the basis of the considerable potential for judicial conflicts and juridical competition, speak of a "Babel of Courts?" Or should we also, on the basis of the German experience, relativize the problem of the last word and rather speak of "Courts for Babel", which – as Sabino Cassese suggests in his book "I tribunali di Babele" – put order into the system?

Der justizielle Pluralismus der europäischen Verfassungsgemeinschaft: "Babylonische Gerichte" oder "Gerichte für Babylon"? in: *Der Staat,* Vol. 55, No. 3, p. 373-391, doi: 10.3790/staa.55.3.373, published September 2016.

Towards Understanding the Genetic Basis of Mouth Asymmetry in Perissodus Microlepis

Francesca Raffini, Department of Biology

Evolutionary biologists aim to uncover the processes underlying the astonishing diversity of life we can observe on Earth. Among this multiplicity of organisms and forms, left-right or bilateral asymmetries exist as polymorphisms, where left or right individuals differ from typically bilaterally symmetrical specimens. How these are produced and maintained in natural populations is an outstanding question that remains largely unanswered.

Direction of mouth opening in *P. microlepis* (courtesy A. Meyer).

The scale-eating cichlid fish Perissodus microlepis is a remarkable example of morphological and behavioral laterality. Its asymmetric mouth is accompanied by a pronounced lateralized foraging behavior, where a left-bending morph preferentially feeds on the scales of the right side of its prey, while the opposite is true for the right morph. This asymmetry has been proposed to be maintained by negative frequency-dependent selection, i.e. the advantage of the rare morph over the abundant one since their prey survive the attacks (*P. microlepis* just removes some scales from the flank) and might tend to protect the flank that is more often attacked from the more abundant morph. Following this explanation, *P. microlepis* soon became one of the most famous models of evolutionary textbooks. However, to clarify if this is the case, the genetic basis underlying this trait, which remains elusive, should be understood.

This study obtained the best poster (DZG 2015) and paper (IMPRS 2016) award.

To address this issue, my colleagues and I in a recently published paper analyzed wild-caught fish using high-throughput DNA sequencing data (*de novo* SNPs discovery through ddRAD and PoolSeq). This allowed us to uncover a candidate's genomic regions that potentially affect this trait. Interestingly, we identified genes related to immunity, ion transporters and cell adhesion proteins. Immunity genes are known to be potent drivers of lineage differentiation in fish; the other genes are at the basis of the mechanism determining the early establishment of left-right patterning during embryogenesis. Particularly, protocadherins are involved in neuronal network formation, and have been linked to the origin of cerebral asymmetry and language in humans. They may play a central role in the formation of *P. microlepis* asymmetry, especially in behavioral lateralization. Our results suggest that mouth asymmetry in *P. microlepis* is likely to be influenced by multiple loci. These outcomes contribute to a greater understanding of the genetic bases of left-right asymmetry and, ultimately, of the evolutionary processes governing the maintenance of laterality.

On the Productivity of Collaborations between Chemistry and Neuropsychology

Jennifer Randerath, Department of Psychology, and Thomas Böttcher, Department of Chemistry (also: Lurija-Institut, Kliniken Schmieder, Allensbach)

Abstract: Collaborative efforts in trans-departmental joint initiatives lead to productive outcomes. We would like to present the results of our nine-month ChemPsych project "Leonie".[1][2][3]

The project team is proud to welcome our new "little fellow", Leonie Fig. 1). Since metrics occur to be increasingly important, even in the development stage of younger fellows, we attempted here to objectively report on her most recent profile (Table 1).

Table 1: Profile metrics for our youngest fellow Leonie.

Metric	Values
Size	57 cm
Weight	3.73 kg
Date and Time of birth	5:42 am, 02. Sept.'16
Scientific productivity	10 pa(m)per / day
H^{air}-index (Fig. 2A)	more than daddy

Figure 1: The project team Thomas and Jennifer with Leonie

Figure 2: **A)** Learning that life is all about the right chemistry. Scientific insight starts with **B)** complex cognitive processes, leading to **C)** the eureka event.

Follow-up studies with Leonie on combining chemistry and neuropsychology led to the implementation of motor cognition principles in communicating basic insights into biological chemistry (Fig. 2).

Conclusions

You may draw your own conclusions, but we think that metrics don't matter, just look at the happy people in Figure 1.

Author Contributione

JR and TB designed the study and conducted the project.

Acknowledgement

This project was supported by the EU FP7 Marie Curie Zukunftskolleg Incoming Fellowship Program – University of Konstanz grant no. 291784. We thank the Zukunftkolleg selection committee of 2014 for initiating the collaboration.

[1] Ronald A. Fisher: *Has Mendel's work been rediscovered?* In: *Annals of Science.* 1/1936, S. 115–137

[2] C. E. Novitski: *Another look at some of Mendel's results.* In: *Journal of Heredity.* 86/1995, S. 62–66.

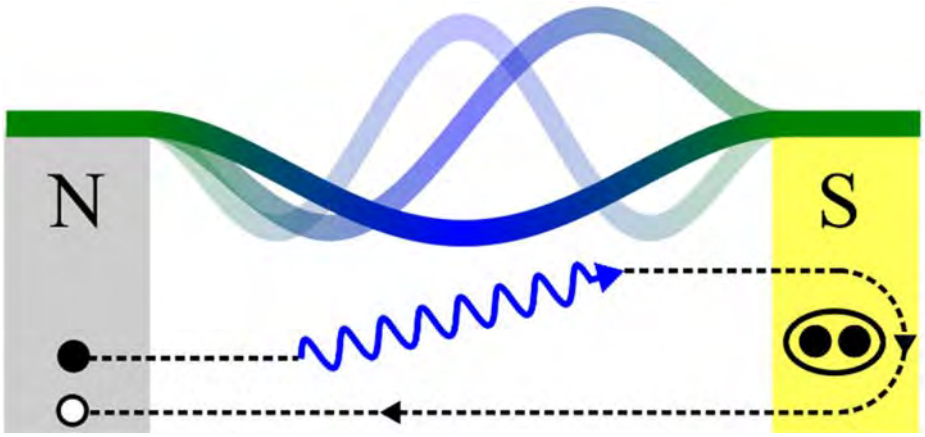
[3] Klaus Sander: *Darwin und Mendel – Wendepunkte im biologischen Denken.* In: *Biologie in unserer Zeit.* 18/1988, S. 161–167

A Quantum Super-Refrigerator for a Carbon Nanotube Oscillator

Gianluca Rastelli, Department of Physics

Reaching the quantum ground state of a nanomechanical oscillator consisting of millions of atoms would make it possible to study the weirdness of quantum mechanics in a new regime. Suspended carbon nanotubes are a typical example. They can oscillate at different frequencies similar to a guitar string.

In this work, we propose a novel way of cooling such a system towards absolute zero, when these modes are in their quantum ground state with the minimal possible energy.



Just like in an ordinary refrigerator, electric current is used to extract the energy. By attaching one normal (N) and one superconducting (S) lead to the nanotube, the electron transport process couples the hot environment to the zero-temperature reservoir of the Cooper pairs in the superconductor, making it possible to achieve an unprecedented level of cooling efficiency.

In this manner, several mechanical modes can be brought into the quantum ground state, which was not possible in previous proposals usually limited to one particular mode.

Our method paves the way to the sophisticated quantum manipulation of carbon nanotube oscillators like a coherent superposition of modes which might be used as a quantum limited sensor of weight or motion.

Bilingual Communities – On the Relationship between Input and Neuronal Measures

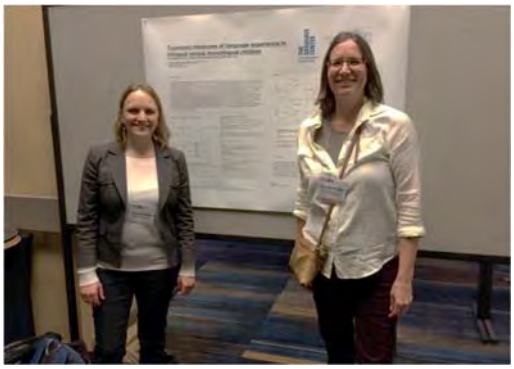
Tanja Rinker, Department of Linguistics

Individuals are considered to be bi- or multilingual if they know and use more than one language in their daily lives. Proficiency, however, may vary greatly between languages, depending on many factors, such as motivation, need and input. Input is defined as the language(s) actively spoken to and used by an individual, but also language(s) heard in their surroundings. Thus, the quality and quantity of input may vary greatly (De Houwer et al.; 2013, Hoff & Place, 2012; Videsott et al., 2010).

The current study is a collaborative project between Senior Fellow Valerie Shafer and me. We examined the link between language input and the neuronal correlates of speech perception in four different groups: Monolingual (American-)English and bilingual Spanish-English children from New York City and monolingual German and bilingual Turkish-German children from Germany. Bilingual Spanish-English children come from a range of Hispanic backgrounds (such as Mexico or the Dominican Republic) and may receive mostly Spanish in the home. Once the child enters school, English is the dominant language of education, although a range of bilingual English-Spanish programmes exist. The bilingual Turkish-German come from a relatively homogeneous background with both parents being of Turkish origin and the dominant language is usually Turkish in the home and in the environment of the child until the child attends daycare. In this daycare setting, German is typically the only language in use.

We examined a neural measure of speech perception called the T-complex to a vowel sound [ɛ]. The T-complex consists of a series of early obligatory peaks (Na, Ta, Tb) that appear 30-250 ms after a new auditory stimulus. The goal was to determine whether these neural measures were modulated by language experience. Language experience was defined in terms of monolingual versus bilingual status, as well as the amount and quality of the language experience.

The results revealed differences in the neural measures between monolingual and bilingual children. Specifically, bilingual children showed smaller and/or later peak amplitudes than the monolingual groups. The Ta-amplitude distinguished monolingual and bilingual children best in both the German/Turkish-German and the English/Spanish-English groups at right hemisphere sites. The amount of experience and type of experience with the language of the mainstream society (English and German) influenced processing. More pronounced monolingual-like responses to the vowel sound were observed if the parents, siblings or even babysitters/nannies were oriented towards the mainstream languages of German or English. Less pronounced responses were seen if parents were oriented towards the heritage language of Turkish or Spanish. However, more balanced input in both languages in bilingual Spanish-English children was related to more robust neuronal responses.



Tanja Rinker and Senior Fellow Valerie Shafer

T-complex measures in bilingual Spanish-English and Turkish-German children and monolingual peers (with Valerie L. Shafer, Markus Kiefer, Nancy Vidal, and Yan h. Yu), in: *PloS One*, 12(3), doi: 10.1371/journal.pone.0171992, published March 7, 2017.

T-complex measures in bilingual Spanish-English and Turkish-German children and monolingual peers (with Valerie L. Shafer, Markus Kiefer, Nancy Vidal, and Yan h. Yu). Poster presented at the 23rd Meeting of the Cognitive Neuroscience Society (CNS), New York, USA, April 2016.

From Archaeology to Technology

Antonio Rotolo, Department of History and Sociology

A researcher's life is an endless series of zigs and zags and crossroads and this last year has been particularly entangled and heartbreaking. The most intense event of my life by far took place in 2016: In February, I became a father to a tiny human being whom my partner and I named Matilde. I have been on parental leave for 9 months to nurture this new family member, but – contrary to what I expected – paternity has made me even more productive.

Freed from research duties, I had more time to work on a side project that I had started in 2014. Ludwig (the name of the project) is a linguistic search engine to search for and solve linguistic doubts. It helps to turn ideas into well-written texts and makes everyone a more confident writer. It is designed thought for non-native English users (especially for researchers) and everyone can use it for free at www.ludwig.guru. My team and I publicly released Ludwig in February 2016 and have kept growing since then. We have helped more than 180,000 people thus far, from more than 180 countries. Ludwig has been featured in a number of high-level media outlets all over the globe: TechCrunch (USA and Japan), Huffington Post (Italy, France, Maghreb, Arabi, Canada, Greece), Genk (Vietnam), YourStory and The Hindu Times (India), and La Stampa (Italy) among others. I still don't know how fast and far Ludwig will run, but our mission is clear: To make English more accessible and democratic for everyone in the world.

If someone were to find it strange that an archaeologist is leading a startup that works on computational linguistics, I would prefer to not see disciplines as watertight containers and consider myself a "digital humanist". With Ludwig, I learned that I am able to apply archaeological methodologies to make sense of some fragmented data either from past societies or from the present day (even if this data is a language). Moreover, researchers possess a wide range of soft skills that prove useful even when starting a business. I have been invited as a guest speaker by the Media Lab at the University of Granada and by the Department of Archaeology at the University of the Basque Country to talk about my ideas about digital humanism and my personal experience between archaeology, archaeology of the present and technology.

I am grateful both to the University of Konstanz and to the Zukunftskolleg for the intellectual freedom and for the exciting international and multidisciplinary environment they provided me with over the last two years. Ludwig is cool, disruptive and innovative. I worked hard to involve the University of Konstanz in the project, but that did not work out – maybe a culture of fostering original startup enterprises still has to grow.

The Brazilian National Truth Commission in the Context of Latin America: Local, National, and Global Perspectives

Nina Schneider, Alumna, Department of History and Sociology

In October 2015, Associate Fellow Dr. Nina Schneider organized an international symposium funded by the Volkswagen Foundation. Dr. Schneider, a Marie-Curie Fellow at the Zukunftskolleg from 2013 to 2015, currently works as a Senior Research Fellow at the Global South Study Center (GSSC) at the University of Cologne. Dr. Schneider holds a PhD in history from the University of Essex and specialises in Latin American history and culture, specifically Brazil.

International Guests

The venue brought together interdisciplinary experts from around the globe. Aleida Assmann (Konstanz) and Jobst Welge (formerly at Konstanz, now at Stockholm University) joined the venue from Germany together with history professors Thomas Fischer (Eichstädt) and Stefan Berger (Director of the Institute for the Study of Social Movements, Bochum). International guests included the Brazilian human rights activist Professor Vera Paiva, daughter of the disappeared Brazilian deputy Rubens Paiva, the Brazilian State attorneys Marlon Weichert and Eugenia Gonzaga, along with numerous other experts: Prof. Leigh Payne, Anthony Pereira, Stefan Berger, Antoon de Baets, Rebecca Atencio, to name but a few. The papers were video-recorded and are available at: https://brtruthcommission.wordpress.com/venue/

The Symposium: The Brazilian Truth Commission in Context

In the early 1980s, truth commissions emerged as a new policy instrument in Latin America to address the hundreds of thousands of tortured, killed, or disappeared citizens of the Cold War period. These temporary bodies, empowered to produce an official report including recommendations have meanwhile spread globally and catalysed a range of studies. Still, conflicting interpretations coexist. While some scholars regard them as national institutions tasked with "national" purposes, such as "nation building", others regard them primarily as global tools with diverse functions. Scholars also offer contrasting assessments concerning the complex local, national, and global entanglements associated with commissions. The symposium sought to re-evaluate these unresolved questions, taking as case studies the Brazilian National Truth Commission (NTC) and other Latin American commissions: To what extent can we conceive of commissions as local, national, or global tools? What are their stated and de facto political and socio-economic objectives?

The symposium was divided into three main sections ranging from the local and historically specific (Brazil) to the global and general (truth commissions in the 21st century). While the first section provided a timely in-depth assessment of the continent's most recent commission – the Brazilian NTC with its historically unique structure – the second part compared the Brazilian NTC with previous truth commissions in Latin America in order to contrast the commissions' historical functions and legacies from a national and global perspective, respectively. The third section discussed the tension between a process of global "diffusion" or "transnationalisation" and their locally specific implementation.

I would like to thank Aleida Assmann, Stefanie Preuß, Boris Barth, Gertraud Plaza and the Volkswagen Foundation for their support in this project.

Running Electronic Surveys in Civil Conflicts

Sebastian Schutte, Department of Politics and Public Administration

In 2016, I was able to continue my research on conflict escalations at the Zukunftskolleg. The German Foundation for Peace Research (DSF) decided to generously support this research by funding a series of electronic surveys which will be conducted in low-intensity conflict areas. The rationale behind the surveys is simple: Respondents are asked about their experiences with out-groups; exposure to political violence; and sentiments toward other ethnic and religious groups in three survey waves. By keeping track of how individuals experience conflict processes over time, important lessons can be learned, for instance how conflicts over political issues fuel hatred between communities. This type of conflict escalation from a struggle over issues to a fight between identities has not yet been studied systematically. Understanding the driving forces behind conflict escalations might pave the way for developing political intervention strategies.

The countries to be studied are Kenya and India. Both countries yield low levels of Internet connectivity, but vast numbers of mobile phone users. Moreover, the mobile phone providers offer mobile cash services for electronic cash transactions among subscribers. Over the last two years, I have developed a survey system that can conduct entire interviews via SMS text messages with thousands of respondents, who are reimbursed via mobile cash. In collaboration with Roos van der Haer, I ran a successful test of the system in India in the spring. Financial support from the DSF and the Zukunftskolleg also enabled Constantin Ruhe to join the project in October, and our collaboration on the upcoming surveys has been very productive. Both the research project and the developed survey technology have been covered in various media outlets.

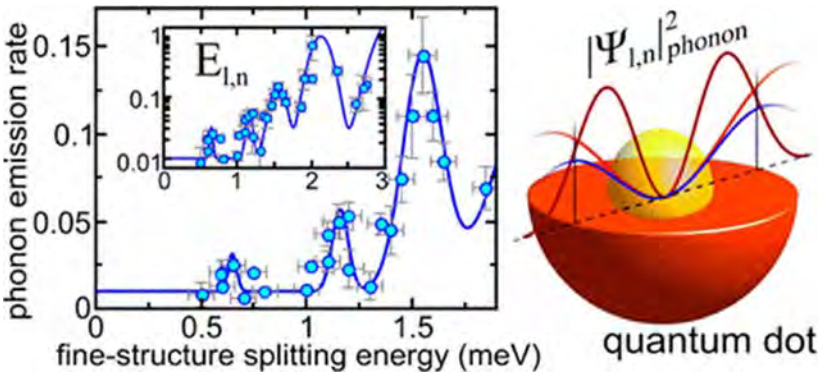
I am planning to expand my research agenda for 2017. Based on the theoretical insights generated by the surveys, I will test theories of cooperative and conflictual behavior in a series of lab experiments. Once the foundations of emerging group-hostilities are understood, field trials for interventions will be conducted in the years ahead.

Good Vibrations on the Nanometer Scale

Denis Seletskiy, Department of Physics

With the advent of nanotechnology, it now is possible to coordinate the quantum motion of fundamental particles to tailor the macroscopic properties of matter. In particular, the ability to engineer bright quantum sources of light is one of the primary goals of nanofabrication. Generally speaking, the photoluminescence emission by mesoscopic condensed matter is ultimately dictated by the fine-structure splitting of the fundamental exciton, -- a quasiparticle formed by two charges in a solid through an attractive force between them -- into optically allowed and dipole-forbidden states. In epitaxially-grown semiconductor quantum dots, nonradiative equilibration between the fine-structure levels is mediated by bulk acoustic phonons, -- acoustic vibrations of the solid. This results in asymmetric spectral broadening of the excitonic luminescence. In contrast, in isolated colloidal quantum dots, the spatial confinement of the vibrational motion is expected to give rise to an interplay between the quantized electronic and vibrational degrees of freedom. In most cases, however, zero-dimensional colloidal nanocrystals are strongly coupled to the substrate such that the charge relaxation processes are still effectively governed by the bulk properties. Recently, my research group has demonstrated[1] that encapsulation of single colloidal CdSe/CdS nanocrystals into individual organic polymer shells promotes systematic vibrational decoupling of the semiconductor nanospheres from the surroundings. In contrast to epitaxially-grown quantum dots, simultaneous quantization of both electronic and vibrational degrees of freedom results in a series of strong and narrow acoustic phonon sidebands that we observed in the emission signal. Furthermore, an individual analysis of more than 200 compound particles reveals that enhancement or suppression of the radiative properties of the fundamental exciton is controlled by the interaction between fine-structure states via the discrete vibrational modes. Consequently, we can engineer the brightness of both the fine structure lines simply by choosing the coupling between the exciton and phonon wave functions (see Figure). For the first time, pronounced resonances in the scattering rate between the fine-structure states are directly observed, in good agreement with a quantum mechanical model. The unambiguous assignment of mediating acoustic modes to the observed scattering resonances complements our experimental findings.

By carefully selecting quantum dot size and the emission characteristics, we can therefore design single quantum emitters of various brightness. Furthermore, given the strong coupling between the optical and the vibrational properties of the nanocrystal, these systems are potentially efficient nanoscale cooling elements. By exciting such quantum dots with photon energies below the mean emission energy of the fundamental exciton, we envision extracting on average a quantum of heat associated with the vibrational motion or, in the language of quantum mechanics, by annihilating acoustic phonons. Good vibrations in the nanocrystals are also cool!



(left) Measured coupling between the bright and the dark excitons in single quantum dots is plotted versus the energetic separation between these transitions. Distinct resonances are clearly seen in the measurement (blue filled circles) and the quantum-mechanical calculation (solid blue line). (right) Schematic of a single quantum dot. While the electronic wave function is predominantly centered in the core of the quantum dot (depicted as a yellow sphere), the wave function of the localized phonon is sampling the whole dimension of the nanocrystal (yellow core and red shell).

[1] F. Werschler, C. Hinz, F. Froning, P. Gumbsheimer, J. Haase, T. de Roo, S. Mecking, A. Leitenstorfer, and D. V. Seletskiy, *Coupling of Excitons via Discrete Acoustic Phonons in Single Isolated Quantum Emitters*, in: *Nano Lett*. 16, 5861–5865 (2016).

Mesocrystals: A Matter of Orientation

Elena Sturm, Department of Chemistry

Mesocrystals are one of the most fascinating examples of nanostructured materials composed of small (nanometer-sized) building blocks with specific crystallographic orientation. The inherent tendency of anisotropic nanoparticles towards aggregation and self-assembly processes provides a great opportunity to generate new materials with novel collective and emergent properties, simply by controlling the size and shape of individual building blocks and their arrangement within the superlattices.[1] The discovery that some natural and synthetic materials can be mesocrystals (including some biominerals and nanoparticle self-assemblies) generated great interest among researchers in many natural science disciplines. Therefore, this research topic became highly interdisciplinary.

Over the past few years, our group has investigated a large variety of inorganic-organic nanocomposite materials, including biological and biomimetic materials as well as nanoparticle self-assemblies. One of our recent examples is the detailed characterization of 2D and 3D mesocrystaline materials based on iron oxide (mainly magnetite) nanoparticle self-assemblies.[2] The self-assembly of monodisperse anisotropic nanocrystals (stabilized by organic molecules) makes it possible to generate a special type of mesocrystal that fulfils the criteria of a crystalline material on two length scales: the ordered superlattice (colloidal crystal) together with the specific crystallographic orientation of the crystalline building blocks. These kinds of materials are of special interest to our group not only because of their fascinating structural and morphogenetic features, but also because of their interesting and promising physical properties. This research led to many successful and long-standing collaborations on this topic with several research groups from the University of Konstanz (both Chemistry and Physics Departments), TU Dresden, MPI CPfS and IFW Dresden. The Zukunftskolleg and the German Research Foundation (DFG) support our research projects. Within the last year, we obtained funding for the Zukunftskolleg Interdisciplinary Collaborative research project (together with Dr. T. Pietsch) and one core project (B1) within the recently established SFB1214 "Anisotropic Particles as Building Blocks: Tailoring Shape, Interactions and Structures" (together with Prof. Dr. H. Cölfen, Prof. Dr. L. Schmidt-Mende).

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[1] *Mesocrystals: Structural and Morphogenetic Aspects (*with Helmut Cölfen), in: *Chemical Society Reviews, 45(21)*, p. 5821-5833, doi: 10.1039/C6CS00208K, published August 9, 2016.

[2] *Self-Assembled Magnetite Mesocrystalline Films: Toward Structural Evolution from 2D to 3D Superlattices* (Julian Brunner, Igor A. Baburin, Sebastian Sturm, Kristina Kvashnina, André Rossberg, Torsten Pietsch, Sergej Andre and Helmut Cölfen), in: *Advanced Materials Interfaces*, 4(1), published January 2017.

Workshop "O-Minimality and Applications"

Margaret Thomas, Department of Mathematics and Statistics

O-minimality is a branch of mathematics that lies at the intersection of two disciplines: mathematical logic and geometry. It was introduced in the 1980s as a way to approach questions of logic arising in real algebraic geometry. This is the study of the geometric properties of real addition and multiplication, and a central question of interest was the interplay between addition, multiplication and exponentiation. The fundamental idea is to consider only those mathematical objects which have (in a precise sense) a "minimal" description, involving an "o"rder (hence "o-minimal"). Although this may seem to be quite a restrictive limitation, it has nonetheless given rise to a rich mathematical theory of a type of "tame" geometry, i.e. one in which pathological geometric properties are not to be found. This theory has been shown to encompass several different types of geometries, as well as a multitude of interesting mathematical examples from areas as diverse as number theory, dynamical systems and group theory. The subject has also found applications outside of mathematics, such as in economics, control engineering and computer science.

Participants in the international workshop "O-Minimality and Applications"

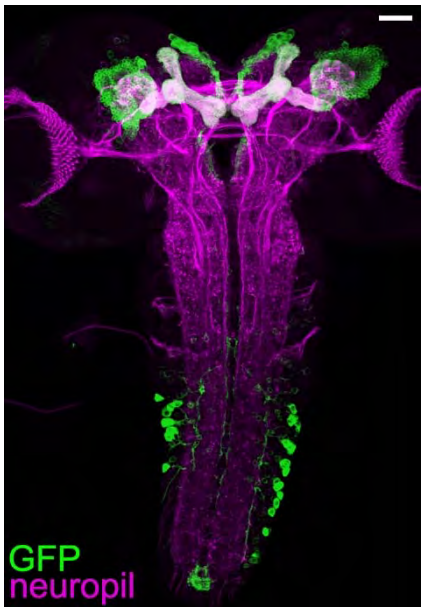
Given its broad scope today, specialised meetings are the primary means for researchers in o-minimality from different subject backgrounds (not only logic and geometry, but also the many areas of application) to exchange ideas and research findings from different perspectives and to identify new directions for research. Thanks to the support of the Zukunftskolleg, the DFG and the Association for Symbolic Logic, I had the opportunity to organise such a meeting at the University of Konstanz together with Prof. David Masser, a number theorist from the University of Basel, Switzerland, and Prof. Patrick Speissegger, a model theorist from McMaster University, Canada. The workshop, held 20-23 July 2015, further presented an occasion to mark the arrival of Prof. Speissegger to the Zukunftskolleg as a Senior Fellow.

This international workshop on "O-Minimality and Applications" brought together 45 world-renowned experts and young researchers, all of whom have an interest in o-minimality but come from diverse disciplines. The participants enjoyed a variety of plenary talks from leading researchers in the field, as well as talks and a poster session from young researchers on topics relating o-minimality to diophantine geometry, dynamical systems, real analytic geometry and topology. The lively interaction that resulted from these talks and accompanying discussions has already brought about several new research initiatives: For my own part, it gave critical impulses to a number of distinct research projects, one of which, a new international collaboration, arose as a direct result of the meeting. This intensive exchange in the summer heat – by, on and in Lake Constance! – was a great success for all concerned, and served both to enhance my international research network and to cement the University of Konstanz's position as an international centre for the study of o-minimality and its applications.

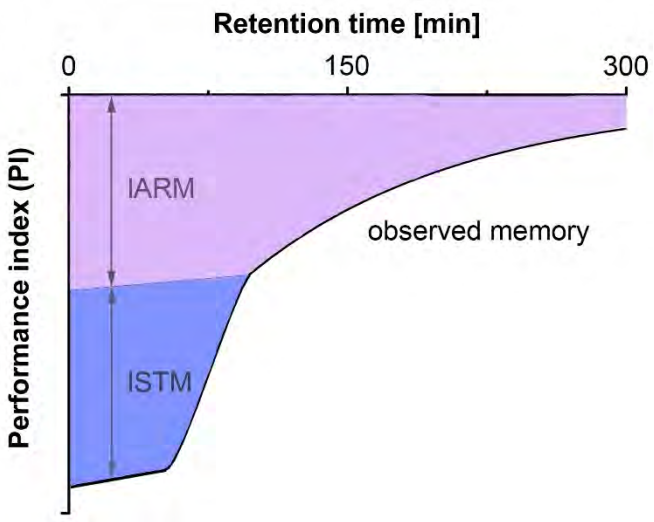
The Molecular, Neuronal and Genetic Basis of Associative Olfactory Learning and Memory in Drosophila Larvae

Andreas Thum, Department of Biology

Learning and memory help organisms to predict and adapt to events in their environment. Gained experience leaves traces of memory in the nervous system. Yet, memory formation in vertebrates and invertebrates is a highly complex and dynamic process that consists of different phases, which depend on various neuronal and molecular mechanisms. To understand which changes occur in a brain when it learns, we applied a reductionist approach. Instead of studying complex cases, we analyzed learning and memory in *Drosophila* larvae which have a simple brain that is genetically and behaviorally accessible, and consists of only about 10,000 neurons. *Drosophila* larvae are able to learn to associate an odor with punishing high salt concentrations. It is therefore possible to correlate changes in larval behavior with molecular events in identifiable neurons after classical olfactory conditioning. We show that under these circumstances, larvae form two parallel memory phases; a short lasting component (lSTM) that is molecularly conserved throughout the animal kingdom because it depends on the classical cAMP pathway. In parallel, they establish a larval anesthesia resistant memory (lARM) that relies on a different molecular signal. lARM has not been described in larvae before.



The figure shows a frontal view of a larval brain. The larval memory center - the entire mushroom body – is shown in green. The brain neuropil is visualized in magenta. Additional green staining is detectable in some neurons of the ventral nerve cord.



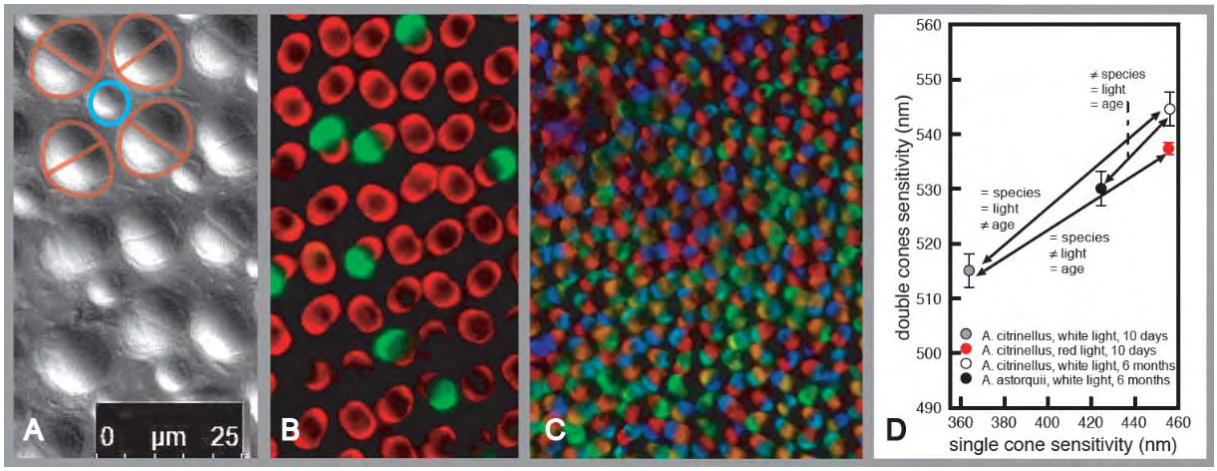
Memory formation in Drosophila larvae occurs through at least two different components, which are genetically and functionally distinct. First, larval short-term memory (lSTM, light blue) occurs immediately after training, but decays within 20 minutes. Second, larval anesthesia-resistant memory (lARM, light magenta) also appears immediately after training, but lasts for a longer period of time. In contrast to lSTM, lARM is resistant to anesthetic disruption. At any given time interval after training the observed memory is the sum of the output of both components.

Evolution of Color Vision in Fish

Julian Torres-Dowdall, Department of Biology

One of the main goals of evolutionary biology is to comprehend the diversity we see in Nature. Evolutionary biologists try to understand the causes of divergence in organisms' characteristics (i.e. phenotypes) and the mechanisms underlying this variation. For this we rely on model systems with a simple relation between genes and phenotypes and between phenotypic and environmental variation. One such system is vertebrate color vision. Animal retinas are covered by photosensitive cells (Fig A), and those involved in color vision are called cones. Cone cells contain photopigments composed by an opsin protein and a photosensitive chromophore. The interaction of these components determines the light wavelengths at which the photopigment will react, starting a neural cascade that in the end will send information to the brain. In humans, three opsin genes code for proteins that are most sensitive in the blue, green and red (actually yellow) parts of the spectrum. The combination of these three channels enables us to see all the colors we see. Interestingly, cichlid fish have seven different opsin proteins that have sensitivities spanning from ultra-violet vision to the far red.

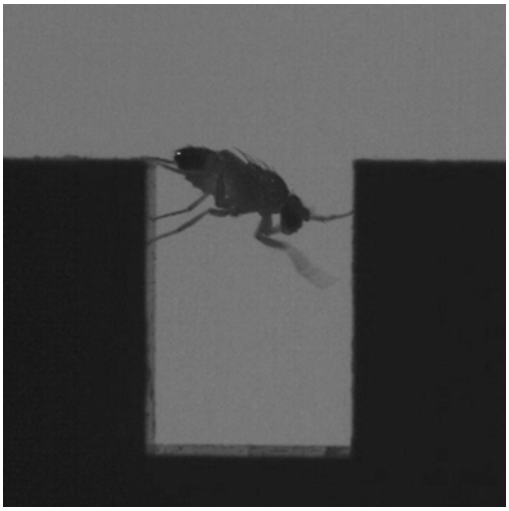
PhD. student Andreas Härer and I are studying the visual system of Nicaraguan Midas cichlid fish inhabiting lakes which differ in terms of the murkiness of the water. Cichlid fish have seven different opsins, but still use mainly three (sometimes four) visual channels. The advantage is that they can use different sets of opsin in response to different light conditions. We found that in a few hundred generations since the colonization of clear water crater lakes from turbid source lakes, fish have evolved an overall blue-shifted visual sensitivity (i.e. adaptive evolution). They achieved this by using a different combination of opsin genes (Fig. B & C). Interestingly, we found that the divergence between species occupying different lakes could also be seen by comparing different life stages within one species (i.e. ontogenetic changes) and comparing the same species exposed to different light conditions (i.e. phenotypic plasticity) (Fig. D). This gives us the unique opportunity to determine whether the same or different molecular mechanisms underlie phenotypic divergence due to adaptation, ontogeny, and plasticity. In subsequent years, we will pursue this goal by comparing what genes are up- and down-regulated in the retina of different species of Midas cichlids, and if these are the same or different from those in the retina of the same species at different ontogenetic stages and in different light conditions. Our ultimate goal is to understand if adaptive evolution takes advantage of existing molecular machinery or if adaptation requires the evolution of mechanisms de novo.



Visual system divergence in Midas cichlids. **A)** Picture depicting the retinal structure in Midas cichlids. Photosensitive cone cells can be single (blue circle) or double (brown circles). **B)** Opsin proteins of double cones were stained using fluorescent in situ hybridization (single cones were not stained). The photo shows a typical retina of an adult Midas cichlid from turbid water, most cones are sensitive in the red part of the light spectrum. **C)** This changes dramatically in a species from a clear water lake (A. astorquii from lake Apoyo, in this case). Cones also express other opsin genes and in some cases express more than one opsin in the same cone. As is suggested by the colors in the picture, fish have a blue-shifted vision in these lakes. **D)** Sensitivities of single and double cones based on opsin gene expression. Each dot is the average of six individuals representing different species, ages, and rearing light condition. Values to the lower left indicate blue-shifted vision and to the upper right red-shifted color vision.

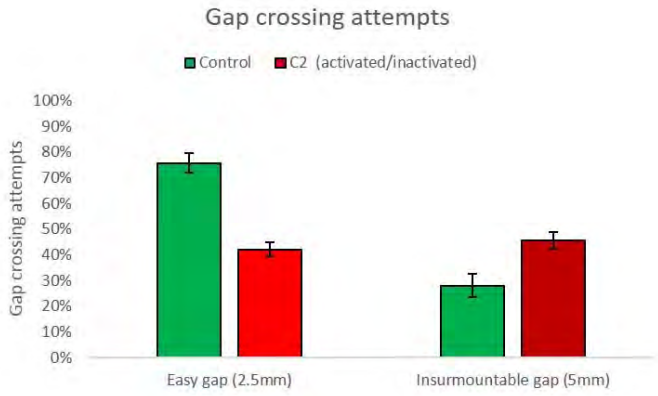
Mind the Gap – Distance Estimation in Drosophila Melanogaster

Tilman Triphan, Department of Biology



Adapting their locomotion to a complex environment is a challenge most animals face on a daily basis. While simple walking on a plane might require changes in gait parameters depending on the behavioral context (e.g. running away from a predator vs. slow walking during feeding), other environmental obstacles require a the switch to a more complex behavior. Fruit flies (Drosophila melanogaster) can climb over chasms larger than their step size, this being vital to them since foraging and mating are achieved while walking. Flies show a very stereotyped but also sophisticated behavior when crossing gaps (see Figure 1): When the front-legs step into the void, the flies first show a short freezing behavior. Then they lift both front-legs over their head, a behavior that is not seen during normal walking. The front-legs make large searching movements until they come in contact with the opposite wall. Then the middle-legs are moved from one side to the other and finally the hind-legs. While this behavior is quite stereotyped in its basic design, there are still a lot of variations. Firstly, the flies will only show this behavior for gaps up to a certain width (they can cross gaps of up to 4.2mm, more than 1.5x their own body size). More specifically, the probability to see a climbing attempt will decline with increasing gap width. The flies process parallax-motion vision stimuli to estimate the width of gaps. Closer objects appear to move faster than objects further away (as an example, compare this to traffic signs right next to the road, distant trees, mountain range/moon).

By testing a large collection of Drosophila fly lines and temporarily inactivating different parts of the nervous system, I identified a class of neurons that are involved in this distance estimation. These flies attempt to climb chasms of unsurmountable width when inactivating the C2 and/or the closely related C3 interneurons in their optic-lobe. When artificially activating these neurons, the opposite effect was visible, i.e. the flies showed a decreased climbing frequency at easily surmountable gaps:



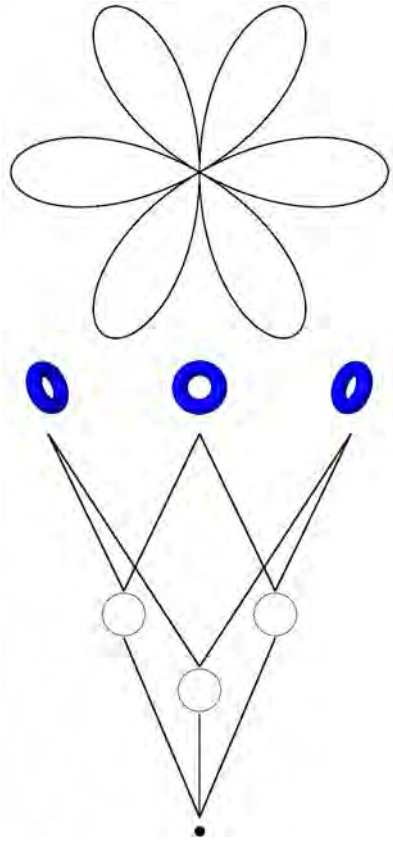
The C2 and C3 neurons are part of the complex, heavily interconnected visual system of the flies. We still do not know the exact role of these neurons in the context of distance estimation. One possible explanation is that manipulating these neurons changes the perception of the flies: Inactivation makes the gap appear smaller, easier to cross and therefore evokes more climbing attempts. Activating these neurons makes the gap appear wider, more difficult to cross and reduces climbing attempts. In an effort to better understand what exactly is happening, I'm currently looking into other cell types in the Drosophila visual system to understand the role of interaction partners and other connected cells.

How to Transfer Geometry of Roots to the Geometry of Polynomials?

Grey Violet, Department of Mathematics and Statistics

Everyone who took a calculus course should probably remember something about the Main Theorem of Algebra, which states that any polynomial of degree n has no more than n complex roots (or exactly n, if one counts roots with their multiplicities together). One can see these roots as points on a complex plane.

A natural question would be: What will happen with coefficients of polynomials if we change the roots continuously? The algebraic answer to this question is straightforward – it is the Vieta theorem, which states that the set of coefficients of a polynomial is (up to signs) the set of values of elementary symmetric polynomials from the roots of polynomials. These are the polynomials consisting of all fixed-degree monomials depending on different roots of an initial polynomial.



Geometrically this means that the set of coefficients of a degree n polynomial is an n-th symmetric product of the space of roots – constructions which have been studied quite intensively in the topological context, but have not been actually studied in the context of, for example, real algebraic geometry. The essence of the construction is the following: It is the set of all unordered subsets of the space of roots that has n elements (counted with multiplicities).

The next question has to be: Suppose that the roots of a polynomial are distributed in some fixed way across a fixed region R on the complex plane – fixed number of roots inside R, fixed number of roots on its border, fixed number of roots outside R. What can we say about the set of all polynomials with a fixed distribution of roots? Different special cases of the question have a long history and lead us to the foundational question of control theory, an important branch of applied mathematics and engineering.

Given a dynamical system – How we can verify that the system has some fixed properties and how can we modify the system such that it would have these properties?

One of the most important properties is the property of asymptotic stability – studied since the foundation of control theory in the 19th century – which corresponds to the cases of R equal to the left half-plane or to the unit disk.

Despite the long history of this question and many algorithmic and algebraic results on it, both in special cases and in general formulations, little is known about the geometry of the problem. I described the topology of the problem in many important cases. Some of these descriptions are shown in the figure.

"Humanimal Sociality" at the Court of the Sun King

Nadir Weber, Department of History and Sociology

My postdoctoral project focuses on the roles of animals at the royal court of France in the 17th century. Using a communication-centred approach, I analyse everyday encounters of kings and courtiers with members of different non-human species as an integral part of court life. By taking these interactions and their representations into account, the study aims to offer a modified model of the "society of court" (N. Elias) as a heterogeneous social figuration.

In this context, my journal article on "The Bestiary of the Duc de Saint-Simon" offers a reinterpretation of the famous memoirs of Louis de Rouvroy, Duc de Saint-Simon (1675–1755), one of the most studied sources on French court life under King Louis XIV. The article shows that human-animal interactions played an important role in the self-representation of the writer and in his description of court life. The social position of Saint-Simon as a duc et pair of France was largely due to the equine competences of his father, Claude de Rouvroy, who had become premier écuyer and grand louvetier de France under Louis XIII. After a short military career, however, the author of the memoirs confined himself largely to the role of an observer who documented – among many other things – daily interactions at court that involved animals. In the duke's critical view, the hunting practices of the king stood for his arbitrary, luxurious system of power, whereas the exchange of animal gifts between members of the court elite revealed patronage ties. Furthermore, Saint-Simons' detailed descriptions of personal characters compared other courtiers with cats, monkeys, or snipes, invoking such imagery to allude to their behaviour or alleged physiognomic similarities. The zoomorphization of court life in the memoirs is a reflection of a world view according to which an animal side was inherent to the nature of all men – even the "man of the court". Simultaneously, however, it also chronicles the co-presence of thousands of living animals of various species in and around the Château de Versailles.

Das Bestiarium des Duc de Saint-Simon. Zur 'humanimalen Sozialität' am französischen Königshof um 1700, in: *Zeitschrift für Historische Forschung*, 43(1), p. 27-59. doi: 10.3790/zhf.43.1.27, published March 2016.

Konstanz Feminist Forum

Leila Whitley, Department of Literature

The Zukunftskolleg is an amazingly supportive environment for early career researchers. We have access to an impressive range of resources and are encouraged to take initiative in our own work, which means that we can construct our research environment in the way that best suits us.

Since arriving at the Zukunftskolleg, one of the things I have done is to put together the Konstanz Feminist Forum. Before coming to Konstanz, I worked at the Centre for Feminist Research at Goldsmiths, and was a member of the Feminist Forum there. Setting up the Feminist Forum at Konstanz is a way to build on this research relationship and extend it to the University of Konstanz. The forum maintains a relationship with Goldsmiths, University of London and with the University of Cambridge through the framework of the Centre for Feminist Research.

The meetings in Konstanz take place approximately once a month during term time and are used both as a space for early career researchers to informally present and discuss their work, and as a reading group for feminist theory. Exchange with the London group is an important part of how the forum is designed to function, and to this end researchers from London are invited to come to Konstanz and to discuss their research with the group here. At the first meeting of the Konstanz Feminist Forum, the co-convener of the Goldsmiths Feminist Forum, Dr. Tiffany Page, presented her research on vulnerability and vulnerable methodologies. Those who participated in the forum were then invited to attend the workshop Feminist Classics Revisited at Cambridge along with the Goldsmiths Feminist Forum.

This collaborative, international research space is key to how I see the forum functioning. In order to continue strengthening this aspect of the collaboration, we are currently working on planning a joint meeting with the Goldsmiths and Konstanz groups for the spring term. This will be hosted at the Goldsmiths Centre for Feminist Research, which is keen to encourage the collaboration. It will be a chance to bring together the various interests and expertise of the two groups in order to explore shared questions and to strengthen research networks.

First meeting of the Konstanz Feminist Forum and Participants of the workshop in Cambridge

Jour Fixe

Jour Fixe

The Jour Fixe is the weekly interdisciplinary session of the Zukunftskolleg. It provides an opportunity for cooperation across disciplines, for discussion of work progress, and for promoting research at the University. The weekly meeting focuses on regular presentations of new projects and results of current projects, introduction of new junior research groups, as well as topical discussions and debates concerning higher education policies.

2015

January 15

Foraging in Fruit Eating Bats: Leveraging Passive Information from Social Partners

Teague O'Mara, Postdoctoral Fellow
Department of Biology

January 22

Reduced Basis Method and Optimization Strategies for the Solution of Complex Systems in Real Applications

Laura Iapichino, Postdoctoral Fellow
Department of Mathematics and Statistics

January 29

Ultrafast Science: Shedding Light on nature's Fastest Events

Daniele Brida, Research Fellow
Department of Physics

February 5

Trending Macroeconomic Time Series and Granger Causality

Paraskevi Salamaliki, Postdoctoral Fellow
Department of Economics

April 16

Changing Ethical Frameworks. From Individual Rights to the Common Good?

Margit Sutrop, guest speaker
Tartu University Estonia, Department of Philosophy

April 29

Reverse Engineering Brains: Use of Animal 'Models' for Understanding the Relation Between Brain and Behavior

Brian Smith, Senior Fellow
School of Life Sciences, University of Arizona

May 6

Plane Curves and Hilbert's 16th Problem

Daniel Plaumann, Research Fellow
Department of Mathematics and Statistics

May 13

Thought Experiments and Knowledge from Fiction

Julia Langkau, Postdoctoral Fellow
Department of Philosophy

May 20

The Visceral Novel-Reader: A Case Study of British Literature and Medicine

Monika Class, Postdoctoral Fellow
Department of Literature

May 27

Null and Void and Unpublishable? Scientists' Perceptions of Negative Results, non-Significant Research Outcomes, and Replications

Jutta Schickore, guest speaker
Indiana University Bloomington
Department of History and the Philosophy of Science

June 3

Multi-Dimensional Party Competition

Edina Szöcsik, Postdoctoral Fellow
Department of Politics and Public Administration

June 10

Early Irish as a Continental European Language: Medieval Mobility and Comparative Syntax

Elliott Lash, Postdoctoral Fellow
Department of Linguistics

June 24

Spin Electronics with Single Atoms

Torsten Pietsch, Research Fellow
Department of Physics

July 8

Jour Fixe Integrative Meeting

July 15

Philosophy in its Relationship with Sciences

Julien Bernard, Postdoctoral Fellow
Department of Philosophy

October 21

Opening event winter term 2015/2016

October 28

In a World of Islands: Humans, Environments and Monuments in the Old Pacific

Christophe Sand, guest speaker
Director of the Institute of Archaeology of New Caledonia and the Pacific

November 4

Explaining and Predicting Large-Scale Violence in Civil Conflicts

Sebastian Schutte, Postdoctoral Fellow
Department of Politics and Public Administration

November 11

Eating by the Norm: The Influence of Social Norms on Eating Behaviour

Marijn Stok, Associated Fellow
Department of Psychology

November 18

Universal Knowledge. A Humanistic Idea Brought to Life

Andrea Lailach-Hennrich, Postdoctoral Fellow
Department of Philosophy

November 25

Size Matters: Glimpses of Some Experiments with Silicon Nanocrystal

Tuhin Basu, Postdoctoral Fellow
Department of Physics

December 2

How Empty is Emptiness?

Denis Seletskiy, Research Fellow
Department of Physics

December 9

The Architecture of Singleness

Katherine Fama, Postdoctoral Fellow
Department of Literature

December 16

Extended Jour Fixe: Postersession

2016

January 13

Impairments after Stroke: Challenges for Diagnostics- and Rehabilitation-Research

Jennifer Randerath, Research Fellow
Department of Psychology

January 20

Space Oddities. Babies, Bones and Medieval Burial Topography

Barbara Hausmair, Postdoctoral Fellow
Department of History and Sociology

January 27

Selling Facism? Advertising the Future in Fascist Italy and Nazi Germany

Bianca Gaudenzi, Postdoctoral Fellow
Department of History and Sociology

Feburary 3

Magnetic Digital Data; Towards an Ultrafast Magnetic Recording

Unai Atxitia, Postdoctoral Fellow
Department of Physics

February 10

Groups Definable in Tame Expansions of O-Minimal Structures

Panteleimon Eleftheriou, Research Fellow
Department of Mathematics and Statistics

April 13

Opening event summer term 2016
Election of the Executive Committee

April 20

What is Different in Bilingual Brains?

Tanja Rinker, Research Fellow
Department of Linguistics

April 27

Aesthetic Empathy, a New Theory of Transference, with References to Didier Anzieu's ,The Skin Ego

Dana Rufolo, guest speaker
Director Theater Research Institute of Europe

May 11

Do Insects Dream?

Randolf Menzel, Senior Fellow
Institute of Biology, FU Berlin

May 18

How Many Is Many?

Doris Penka, Research Fellow
Department of Linguistics

May 25

Analysis of the Dynamics of Protein Conformations: Structural and Mechanistic Aspects of Protein Folding

Oleksandra Kukharenko, Postdoctoral Fellow
Department of Chemistry

June 1

What Can We Learn from the History of Philosophy of Science?

Francesca Biagioli, Postdoctoral Fellow
Department of Philosophy

June 8

Mind the Gap: Complex Motor Behavior in Flies

Tilman Triphan, Postdoctoral Fellow
Department of Biology

June 15

A Tamed Society? Interspecies Interactions at the Royal Court of France, 1594-1715

Nadir Weber, Postdoctoral Fellow
Department of History and Sociology

June 22

An Anthropological Study of Urban Activism: Experience, Ideas, and Practices

Raul Acosta Garcia, Associated Fellow
Department of History and Sociology

June 29

Hydration Layers and Short Range Forces in Nanoscale Crystals

Klaus Boldt, Research Fellow
Department of Chemistry
&
Paul Mulvaney, Senior Fellow
School of Chemistry, University of Melbourne

July 6

The Importance of Emotions for Gendered Educational and Occupational Choices in STEM Domains

Madeleine Bieg, Associated Fellow
Department of History and Sociology
&
Helen Watt, Mentor
Faculty of Education, Monash University

July 13

Improving Well-Being and Sustainability Through Understanding and Shaping Human Food Choices

Paul Rozin, Senior Fellow
Department of Psychology, University of Pennsylvania

October 26

Opening event winter term 2016/2017

November 2

Ethnis Politics and Ethnic Violence: What Role do Governments Play?

Janina Beiser, Postdoctoral Fellow
Department of Politics and Public Administration

November 9

Proteins – Surfing on Waves

Michael Kovermann, Associated Fellow
Department of Chemistry

November 16

Anthopologenic Climate Change Impact on Biodiversity

Sasha Kosanic, Associated Fellow
Department of Biology

November 23

The Teamwork of Lhcx and Xantophyll Cycle in Providing NPQ in Phaeodactylum Tricornutum

Bernard Lepetit, Postdoctoral Fellow
Department of Biology

November 30

Conceptual Change in Set Theory – Combining Mathematics, Philosophy and History

Carolin Antos-Kuby, Associated Fellow
Department of Philosophy

December 7

The World Re-Fraimed: Statistics and the Development of Economic Thought in Hungary from the 1770s to 1848

Maria Hidvegi, guest speaker
Department of History and Sociology

December 14

Jour Fixe Christmas Session

Facts & Figures

Events

2015

January 13
Mehrsprachigkeit und Sprachkonflikt, lecture by Georg Kaiser (Department of Linguistics) within the Interdisziplinäre Ringvorlesung "Mehrsprachigkeit"

January 15
Workshop on Future Research Directions of the Zukunftskolleg

January 20
Totaler Sprachkontakt in Süditalien: 500 Jahre slawisch-italienischer und albanisch-italienischer Bilingualismus, lecture by Walter Breu (Department of Linguistics) within the Interdisziplinäre Ringvorlesung "Mehrsprachigkeit"

January 21
Mee ing of he Departmental Fellow Representatives of the Zukunftskolleg

January 24
Anniversary Celebration of the Center for Multilingualism at Wolkensteinsaal, Kulturzentrum Konstanz

January 27
Monolingualer Habitus im Wandel? Bewegung und Stagnation an deutschen Schulen und Universitäten, lecture by Svenja Kornher (Office for Equal Opportunity and Family Affairs) within the Interdisziplinäre Ringvorlesung "Mehrsprachigkeit"

January 30
Last Girl Standing: On Scottish Playwright Zinnie Harris' War Plays, lecture by Julia Boll (Postdoctoral Fellow/Department of Literature) within the workshop: "Von Richard III. bis Pussy Riot: Inszenierung des Politischen im Theater und in den Massenmedien Europas" at the Bischofsvilla, Konstanz

February 2
Wasted Lives, Drowned: Plays on the Refugee Crisis, lecture by Julia Boll (Postdoctoral Fellow/Department of Literature) within the Fachbereichskolloquium Literaturwissenschaft

February 3
Gespräch über Schreiben und Übersetzen aus der Perspektive der Mehrsprachigkeit, lecture by Schamma Schahadat (University of Tübingen and Zürich) and Ilma Rakusa (Writer and Translator) within the Interdisziplinäre Ringvorlesung "Mehrsprachigkeit"

February 4
Coffee Get-together

February 10
Ausblick: Final session of Interdisziplinäre Ringvorlesung "Mehrsprachigkeit", organized by Tanja Rinker (Research Fellow/Department of Linguistics) and Janet Grijzenhout (Department of Linguistics)

February 10
Next Generation Information Technology: The Atomic Limit?, Zukunftskolleg Lecture by Ulrich Rüdiger (Rector of the University of Konstanz/Department of Physics)

February 11
Fiction Meets Science: Readings and Musings from a Nerd Novel Author, lecture by Susan M. Gaines (Novelist, writer-in-residence and Co-Director of "Fiction Meets Science" at the University of Bremen)

February 13
Objects of Scientific Inquiry: The Question of Ethics in Contemporary Literature on Science, lecture by Julia Boll (Postdoctoral Fellow/Department of Literature) within the Fachbereichskolloquium Literaturwissenschaft

February 23
Zukunftskolleg Scien ific Advisory Board Meeting

April 22
The Brain and the Mind: An Animal Perspective, public lecture by Giovanni Galizia (Director of the Zukunftskolleg/ Department of Biology) within the interdisciplinary course "Nature and Culture als False Dichotomy", organized by Raul Acosta Garcia (Associated Fellow/Department of History and Sociology) and Wolf Hütteroth (Postdoctoral Fellow/Department of Biology)

April 29
Simon Mawer: Mendel's Dwarf, group reading within the "Book Club", organized by Julia Boll (Postdcotoral Fellow/ Department of Literature)

May 13
Food Intake and Energy Expenditure: How do we keep the Balance?, public lecture by Martin Klingenspor (TU München/Department of Biology) within the interdisciplinary course "Nature and Culture als False Dichotomy"

May 13
Mehrsprachigkeit als Gewinn – meine Erfahrungen, public lecture by Cem Özdemir (Bundesvorsitzender der Grünen und MdB) organized by The Center for Multilinguism

May 19
Science/Stage: An Experiment, lecture by Thomas Böttcher (Research Fellow/Department of Chemistry) and Julia Boll (Postdoctoral Fellow/Department of Literature) at the Studiobühne Konstanz

May 20
Biocultural Variation and Obesity, public lecture by Stanley Ulijaszek (Oxford/Department of History and Sociology) within the interdisciplinary course "Nature and Culture als False Dichotomy"

May 20
Das Paradox der Interdisziplinarität. Zum Selbstverständnis des wissenschaftlichen Nachwuchses in Exzellenzclustern und interdisziplinären Forschungsverbünden, lecture by Simone Rödder (University of Hamburg/Center of Excellence)

May 20
Gedankengeflechte. Ein philosophischer Blick durch abstrakte und organische Kunst, Vernissage of the exhibition organized by Julien Bernard (Postdoctoral Fellow/Department of Philosophy) and Julie Pelletier (Artist), at the BildungsTURM Konstanz

May 22
Probleme einer Archäologie der Nazi-Zeit: Das Beispiel Berlin-Tempelhof, public lecture by Reinhard Bernbeck and Susan Pollock (FU Berlin), organized by Barbara Hausmair (Postdoctoral Fellow/Department of History and Sociology)

May 26
Reading Group on Dilip Ninan's Paper: What is the Problem of De Se Attitudes?, workshop organized by Brendan Balcerak Jackson (Research Fellow/Department of Philosophy)

May 27
Weyl and the Problem of Space, from Science to Philosophy, workshop organized by Julien Bernard (Postdoctoral Fellow/Department of Philosophy)

May 28
Vom einzelnen Partikel zu hochgeordneten Überstrukturen: Wie man die optischen und elektronischen Eigenschaften nanokristalliner Halbleiter-Heterostrukturen kontrolliert, lecture by Klaus Boldt (Research Fellow/Department of Chemistry) within the Fachbereichskolloquium

May 29
Science/Stage: An Experiment, lecture by Andreas Thum (Research Fellow/Department of Biology) and Julia Boll (Postdoctoral Fellow/Department of Literature) at the Studiobühne Konstanz

June 3
Ape Culture vs. Human Culture, public lecture by Claudio Tennie (Birmingham/Department of Biology) within the interdisciplinary course "Nature and Culture als False Dichotomy"

June 13
Vorteile der Zweisprachigkeit – Aramäisch als Muttersprache, lecture by Janet Grijzenhout (Center for Multilinguism) and Eleanor Coghill (Research Fellow/Department of Linguistics), at the Kloster St. Avgin in Aarth, Switzerland

June 17
Assembly of Members of the Zukunftskolleg, EC member election

June 17
The Correspondence of Lives, public lecture by Tim Ingold (Aberdeen/Department of History and Sociology) within he interdisciplinary course "Nature and Culture als False Dichotomy"

June 18
Attributive Constructions in North-Eastern Neo-Aramaic: Areal, Typological and Historical Perspec ives, public lecture by Ariel Gutman (Associate Fellow/Department of Linguistics)

June 19
New Work on Modals, Conditionals, and Evidentials, workshop organized by Sven Lauer (Postdoctoral Fellow/Department of Linguistics)

June 24
Biodiversity Conversation in the Anthropocene, public lecture by Christoph Küffer (Zürich/Department of Biology) within he interdisciplinary course "Nature and Culture als False Dichotomy"

June 26
Science/Stage: An Experiment, lecture by Gianluca Rastelli (Research Fellow/Department of Physics) and Julia Boll (Postdoctoral Fellow/Department of Literature) at the Studiobühne Konstanz

June 29
Zukunftskolleg 1st Recruitment Committee Meeting

June 29
Who will pay my pension someday…?, lecture given by Experts from Deutsche Rentenversicherung (DRV), and supplementary pension scheme (VBL)

July 1
Collisions between Forms of Life in the Ecuadorian Amazon, public lecture by Laura Rival (Oxford/Department of History and Sociology) within the interdisciplinary course "Nature and Culture als False Dichotomy"

July 1
Wissenschaftsministerin Theresia Bauer im Gespräch, discussion with the participation of Giovanni Galizia (Director of the Zukunftskolleg), Andreas Stephan Thum (Research Fellow/Department of Biology) and others

July 14
Food and Culture, public lecture given by Paul Rozin, (Department of Psychology/University of Pennsylvania, USA)

July 14
The Meaning of Imperatives, pulic lecture by Nate Charlow (University of Toronto) within the "Foundations of Semantics" working group

July 15
Kudiyattam: The Last Living Sanskrit Theater in the World, Zukunftskolleg Lecture given by David Shulman (Hebrew University Jerusalem)

July 16
The Dancing Bee, lecture within the "Science on Stage: An Experiment" series, organized by Julia Boll (Postdoctoral Fellow/Department of Literature) and Giovanni Galizia (Director Zukunftskolleg/Department of Biology) at he Studiobühne Konstanz

July 20-23
O-Minimality and Applications, workshop organized by Margaret Thomas (Research Fellow/Department of Mathematics), Patrick Speissegger (Senior Fellow/McMaster University) and David Masser (University of Basel)

July 24
Jonathan Lethem: As She Climbed Across the Table, group reading within the "Book Club", organized by Julia Boll (Postdcotoral Fellow/Department of Literature)

July 29-31
The Other Senses in Literary and Medical Culture, workshop organized by Monika Class (Postdoctoral Fellow/Department of Literature)

September 23-25
Controlling Magnetic Nanostructures, workshop organized by Unai Atxitia Macizo (Postdoctoral Fellow/Department of Physics)

September 28
Zukunftskolleg Recruitment Committee Meeting

October 8-9
Workshop on Wh-Doubling, organized by Elliott Lash (Postdoctoral Fellow/Department of Linguistics)

October 9
Kant on Psychology, workshop organized by Andrea Lailach-Hennrich (Postdoctoral Fellow/Department of Philosophy)

October 14
Flexible Pollinator Preferences: Toward a Deeper Understanding of Flower Choice, public lecture within the symposium "Odour Communication between Insects and Plants", given by Robert Raguso (Cornell University)

October 15
Spione, Spins und Spektren, inaugural lecture by Malte Drescher (Alumnus/Department of Chemistry)

October 16
Mehrsprachigkeit in Kita und Schule, conference organized by Tanja Rinker (Research Fellow/Department of Linguistics) and the Centre for Multilinguism at the VCH-Hotel Haus St. Elisabeth in Allensbach-Hegne

October 26
Zukunftskolleg Workshop on Future Research Directions

October 27
The Archaeology of Contemporary Violence, public lecture by Alfredo Gonzales Ruibal (Scientific Researcher in the INCIPIT, CSIC, Spain)

October 29
Amitav Ghosh: The Hungry Tide, group reading within the "Book Club", organized by Julia Boll (Postdcotoral Fellow/Department of Literature)

2016

January 15
Science Slam at Spiegelhalle, Theater Konstanz

January 22-24
Neo-Kantian Perspectives on the Exact Sciences, conference organized by Francesca Biagioli (Postdoctoral Fellow/Department of Philosophy)

January 29
Karen Joy Fowler: We Are All Completely Beside Ourselves, group reading wi hin the "Book Club." organized by Julia Boll (Postdcotoral Fellow/Department of Literature)

February 2
Protein Biomarkers: Recent Developments and Perspectives for Clinical Applications, habilitation lecture by Marilena Manea (Research Fellow/Department of Chemistry)

February 23
Mehrsprachigkeit fördern – von der Kita bis zum Gymnasium, workshop series of the DGfS (Deutsche Gesellschaft für Sprachwissenschaft, organized by the Center of Multilinguism, headed by Tanja Rinker (Research Fellow/Department of Linguis ics)

February 23
The Humanities Pedagogy Workshop, meeting and discussion of practices, books and articles on teaching and higher education

March 8
Spracherwerb und Mehrsprachigkeit in der frühen Kindheit, workshop organized by the Center for Multilinguism, headed by Tanja Rinker (Research Fellow/Department of Linguistics)

April 18
A. S. Byatt: Morpho Eugenia, group reading within the "Book Club", organized by Julia Boll (Postdcotoral Fellow/Department of Literature)

April 22
The Humanities Pedagogy Workshop, meeting and discussion of prac ices, books and articles on teaching and higher education

April 29
Feminist Forum at Konstanz, organized by Leila Whitley (Postdoctoral Fellow/Department of Literature), guest speaker: Tiffany Page (Centre for Feminist Research CFR at Goldsmiths University College London, UK)

May 4
Bodies and Borders: A Panel Discussion, panel at Goldsmiths University College London (UK) organized by Leila Whitley (Postdoctoral Fellow/Department of Literature)

May 5
Zukunftskolleg Image Film, screening and reflection on the new image film created by Albert Kümmel-Schnur

May 19
Peptide-Based Drug Delivery Systems for Targeted Cancer Therapy, inaugural lecture by Marilena Manea (Research Fellow/Department of Chemistry)

June 23
The Humanities Pedagogy Workshop, meeting and discussion of prac ices, books and articles on teaching and higher education

June 23-24
Zukunftskolleg Scien ific Advisory Board Meeting

June 27-28
Mobility. A Concept and a Way of Life, joint symposium with the Martin Buber Society of Fellows in the Humanities and Social Sciences (MBS), Hebrew University of Jerusalem at the Museum of Art and Cars, Singen. co-organized by Bianca Gaudenzi (Postdoctoral Fellow/Department of History and Sociology), Andrea Lailach-Hennrich (Postdoctoral Fellow/Department of Philosophy), Maria Daniela Poli (Postdoctoral Fellow/Department of Law), and Nadir Weber (Postdoctoral Fellow/Department of History and Sociology)

June 30
Feminist Forum at Konstanz, workshop organized by Leila Whitley (Postdoctoral Fellow/Department of Literature) and the Centre for Feminist Research CFR at Goldsmiths University College London (UK)

June 30
Not All That's Gold does Glitter, public lecture by Paul Mulvaney (Senior Fellow/School of Chemistry, University of Melbourne)

July 18
Summer School in Tame Geometry, conference organized by Panteleimon Eleftheriou, Daniel Plaumann, and Margaret Thomas (Research Fellows/Department of Mathematics and Statistics), Salma Kuhlmann (Department of Mathematics and Statistics, University of Konstanz), and Jonathan Pila (Oxford)

July 20
The Humanities Pedagogy Workshop, meeting and discussion of practices, books and articles on teaching and higher education

October 7
The Humanities Pedagogy Workshop, meeting and discussion of practices, books and articles on teaching and higher education

October 10
Sydney Padua: The Thrilling Adventures of Lovelace and Babbage, group reading within the "Book Club", organized by Julia Boll (Postdcotoral Fellow/Department of Literature)

October 19
Wie schreibt man die Geschichte von Mensch und Pferd?, Zukunftskolleg Lecture by Ulrich Raulff (Director Deutsches Literaturarchiv Marbach)

October 29-December 11
Die Straßen des Honigs, exhibition at BildungsTURM Konstanz with photographies by Éric Tourneret, organized by the Zukunftskolleg, Stadt Konstanz, Amt für Schulen, Bildung und Wissenschaft, Imkerverein Konstanz e.V., Vernissage: October 28

November 2
The Humanities Pedagogy Workshop, meeting and discussion of practices, books and articles on teaching and higher education

November 2
The Intelligence of the Bees, public lecture by Randolf Menzel (Senior Fellow/Institute of Neurobiology at FU Berlin) at BildungsTURM Konstanz

November 3
Teaching (under) Rape Culture, workshop given by Josh Edelman (Manchester Metropolitan University), organized by "The Humanities Pedagogy Workshop" of the Zukunftskolleg

November 9
Solitärbienen und ihre Vorlieben für spezielle Blüten, lecture by Hannah Burger (Associated Fellow/Department of Biology) within the exhibition "Die Straßen des Honigs" at BildungsTURM Konstanz

November 22
Teaching Literary and Critical Theory, workshop given by Linda Tym (College Dale/Chattanooga), organized by "The Humanities Pedagogy Workshop" of the Zukunftskolleg

December 1
Lily King: Euphoria, group reading within the "Book Club", organized by Julia Boll (Postdoctoral Fellow/Department of Literature)

December 15-16
Historicising Cultural Brokers: Agency and the Limits of Power, 1700 to the present, international workshop organized by Bianca Gaudenzi (Postdoctoral Fellow/Department of History and Sociology)

Talks

Tuhin Shuvra Basu

"Electronic Transport Through Surface Functionalized Noble Metal Nanoparticles: Studied at the Single Object Level" (with S. Diesch, and E. Scheer), DPG Spring Meeting, Regensburg (Germany), March 6-11, 2016

"Scanning Tunneling Microscopy of Silicon Nanoparticle", Department of Physics, 'Friday Seminar' at the University of Konstanz (Germany), May 29, 2015

Janina Beiser

"To Be on the Safe Side: Government Repression in Space and Time", American Political Science Association Annual Meeting, Philadelphia (USA), September 2016

"To Be on the Safe Side: Government Repression in Space and Time", Jan Tinbergen European Peace Science Conference, Milano (Italy) June 2016

Francesca Biagioli

"Cassirer on Scientific Representation and the Concept of Function", Philosophy colloquium at the University of Haifa (Israel), December 13, 2016

"Arithme ization as a Tool of Discovery in Felix Klein's Research Program and Epistemological Writings", Eighth French Philosophy of Mathematics Workshop (FPMW 8), Marseille (France), November 3-5, 2016

"Structuralism and Mathematical Practice in Felix Klein's Work on Non-Euclidean Geometry", Foundations of Mathematical Structuralism, Munich Center for Mathematical Philosophy, München (Germany), October 12-14, 2016

"Reconsidering the Semantic View of Theories from a Historical Perspective", XII Conference of the SIFA: The Italian Society for Analytic Philosophy, UNISER – Università di Pistoia (Italy), September 5-7, 2016

"The Natural and the Normative Reconciled in Helmholtz's Theory of Measurement", in "The Natural and the Normative at 25", symposium with Gary Hatfield, presented at HOPOS 2016: The International Society for the History of Philosophy of Science Society Congress, University of Minnesota (USA), July 25, 2016

"Reconsidering the Semantic View of Theories from a Historical Perspective", The Semantics of Theories, Munich Center for Mathematical Philosophy, Munich (Germany), July 23, 2016

"Cassirer on Scientific Representation and the Concept of Function", Munich Center for Mathematical Philosophy, Munich (Germany), April 21, 2016

"The Empirical in Space", The Stubbornness of the Empirical, Performative Arts Forum, St. Erme (France), March 3-7, 2016

"Alois Riehls wissenschaftstheoretisches Argument für die Erkennbarkeit der Dinge an sich", Forschungskolloquium, TU Darmstadt (Germany), February 8, 2016

"Cassirer on Scientific Representation and the Concept of Function", conference: "Neo-Kantian Perspectives on the Exact Sciences", University of Konstanz (Germany), January 22-24, 2016

"Continuities and Discontinuities across Theory Change: Ernst Cassirer's Relativized Conception of the A Priori", Lunchtime Colloquium of the Center for Philosophy of Science, University of Pittsburgh (USA), October 30, 2015

"Reconsidering the Philosophical Roots of Helmholtz's Theory of Measurement", The Making of Measurement, University of Cambridge (UK), July 23-24, 2015

"Intui ion and Conceptual Construction in Weyl's Analysis of the Problem of Space", Weyl and the Problem of Space, University of Konstanz (Germany), May 27-29, 2015

"On Different Views of Rationality in 20th-Century Philosophy: Cassirer and Husserl", Humanities and Social Sciences Today: Classical and Contemporary Issues, University of Iași (Romania), May 7-11, 2015

Klaus Boldt

"Controlling Charge Carrier Overlap in Type-II ZnSe/ZnS/ CdS Core-Barrier-Shell Quantum Dots", Bunsentagung, University of Bochum (Germany), May 2015

"Controlling Charge Carrier Overlap in Type-II ZnSe/ZnS/ CdS Core-Barrier-Shell Quantum Dots", FQDots15, Santiago de Compostela (Spain), September 2015

"Environmental Effects on the Synthesis and Photo-Stability of Semiconductor Nanocrystals", NaNaX7, University of Marburg (Germany), April 2016

"Environmental Effects on the Synthesis and Photo-Stability of Semiconductor Nanocrystals", Bunsentagung, University of Rostock (Germany), May 2016

Julia Boll

"Wasted Lives, Drowned: Plays on he Refugee Crisis and the Bare Life on Stage", invited lecture at the University of Bremen (Germany), December 20, 2016

"Enforcing Political Beauty", conference: "Radical Interven ions: Politics, Culture, Society", CAPPE, University of Brighton (UK), September 7-9, 2016

"Science/Stage: an Experiment in Interdisciplinary Lectures", Advisory Board Meeting at Zukunftskolleg, University of Konstanz (Germany), June 23, 2016

"Not Talking about Blackfacing", conference: "Presenting the Theatrical Past. Interplays of Artefacts, Discourses and Practices. FIRT/IFTR World Congress", University of Stockholm (Sweden), June 17, 2016

"Migration and Hospitality: communitas at the Theatre", conference: "Theatre & Mobility: 25th Annual CDE Conference", Katholische Universität Eichstätt-Ingolstadt (Germany), May 28, 2016

"Theatre as Political Forum? Gregory Burke's Black Watch", invited lecture at the Friedrich Schiller University of Jena (Germany), May 2, 2016

"Is Knowledge Performative? Science/Stage: an Experiment in Performance Lectures", invited talk at the conference "Doing Science: Texts, Patterns, Practices", University of Köln (Germany), November 20, 2015

"Wasted Lives, Drowned: Plays on he Refugee Crisis", conference: "The 29 h Annual Conference of SLSA (Society for Literature, Science, & the Arts): After Biopolitics", Center for Critical and Cultural Theory at Rice University Houston/Texas (USA), November 13, 2015

"Wasted Lives, Drowned: Plays on he Refugee Crisis", invited lecture at Southern Adventist University, Collegedale/Tennessee (USA), November 11, 2015

"The Sum of Our Parts: the Voices of the Human Genre Project", invited talk at the conference "The Poetics of Knowledge", University of Bern (Switzerland), November 6, 2015

"The Object's Voice: Literature's Attempt to Create Subjectivity", invited talk at the symposium "Dying Well: Enacting Medical Ethics", Bart's Pathology Museum, London (UK), September 9, 2015

"Utopia at the Theatre: the Possibility of Change", conference "Utopia", CAPPE, University of Brighton (UK), September 3, 2015

"Making the Audience Cry", conference: "Theatre & Democracy. FIRT/IFTR World Congress", University of Hyderabad (India), July 6, 2015

"David Greig's Transnationalism", invited lecture at the Scottish Universities' International Summer School, University of Edinburgh (UK), August 13, 2015

"Martin McDonagh's The Cripple of Inishmaan", invited lecture at the Scottish Universities' International Summer School, University of Edinburgh (UK), August 19, 2015

"The Homo Sacer as Limit", invited talk for Theatre, Citizenship and the Law, part of The Performative and the Political project, University of Edinburgh (UK), June 18, 2015

"The Dancing Bee", public performance lecture (with Giovanni Galizia and Christiana Rosenberg-Ahlhaus) as part of the lecture series "Science/Stage: an Experiment", University of Konstanz (Germany), July 16, 2015

"Schroedinger's Stage", public performance lecture (with Gianluca Rastelli) as part of the lecture series "Science/Stage: an Experiment", University of Konstanz (Germany) June 26, 2015

"Rewriting the Experimental Script", public performance lecture (with Andreas Thum) as part of the lecture series "Science/Stage: an Experiment", University of Konstanz (Germany), May 29, 2015

"Is that Your Microbiome Trying to Take Over?" public performance lecture (with Thomas Böttcher) as part of the lecture series "Science/Stage: an Experiment", University of Konstanz (Germany), May 19, 2015

"Objects of Scientific Inquiry: the Question of Ethics in Contemporary Literature on Science", Research Day Professor Aleida Assmann, University of Konstanz (Germany), February 13, 2015

"Wasted Lives, Drowned", research colloquium at the Department of Literature, University of Konstanz (Germany), February 2, 2015

Thomas Böttcher

"Strategies for Combating Bacterial Infections", ASSAf-Leopoldina, New Research Perspectives on Infectious Diseases in Africa and Germany, Max Planck Ins itute for Infection Biology, Berlin (Germany), October 25, 2016

"Synthetic Quinolones Inhibiting Virulence of Pseudomonas", Bioorganik Symposium, Jena (Germany), September 9, 2016

"Hätte die Evolution auch völlig anders verlaufen können?", Salon Sophie Charlotte, "Leibniz Day", Berlin-Brandenburg Academy of Sciences, Berlin (Germany), February 12, 2016

"Swarming Behavior and Synthesis of Siderophores", Emmy Noether Meeting, Bayreuth (Germany), February 12, 2016

"Small Molecule Inhibitors of Bacterial Behaviour", invited talk, Marburg (Germany), December 14, 2015

"Small Molecule Inhibitors of Bacterial Swarming", Bioorganik Symposium, Hamburg (Germany), September 24, 2015

"Defining Life as Biosphere Complexity", conference: "The Origin of Life", Höör (Sweden), May 8, 2015

"Bakterielles Populationsverhalten und die Evolution von Naturstoffen", Leopoldina, Halle an der Saale (Germany), March 6, 2015

Daniele Brida

"Optical Control of Electron Tunneling in Plasmonic Nanoantennas via Single-Cycle Pulses", ETA'16, Malaga (Spain), 2016

"Transient Mul i-THz Biasing of GaAs: From Franz-Keldysh Absorption to Wannier-Stark Localization", symposium on Bright THz source and nonlinear THz field-matter interaction, Rochester (USA), 2016

"Ultrafast Carrier Dynamics in Monolayer Graphene", DPG spring mee ing, Regensburg (Germany), 2016

"Ultrafast Quantum Electron Tunneling in Nanoantennas", topical mee ing on Nonlinear Plasmonics, Rome (Italy), 2016

"High-Power Yb:Amplifiers Seeded by a Femtosecond Er:Fiber Laser", Laser Optics 2016, St. Petersburg (Russia), 2016

"Ultrafast Fiber Laser Technology for Sub-Cycle Control of Quantum Currents", Sino-German symposium on Attosecond Photonics, Shanghai (China), 2015

"Er:Fiber Femtosecond Lasers", lecture at the Winter College on Optics, ICTP Trieste (Italy), 2016

"Ultrafast Quantum Tunneling in Nanojunctions", Max Planck Institute for Solid State Research, Stuttgart (Germany), 2015

"Ultrafast Electron Dynamics in Low Dimensional Systems", Fritz Haber Institute, Berlin (Germany), 2015

María Cruz Berrocal

"The Archaeology of Heping Dao-B: From Prehistory to Modern Times", Keelung, Institute of Applied Geosciences, National Taiwan Ocean University (China), October 28, 2016

"Archaeology for the History of Colonialism in Asia-Pacific: the Spanish Colony of San Salvador, Heping Dao, Keelung, Tainan", National Cheng Kung University (China), October 7, 2016

"Españoles en Taiwán: la colonia de San Salvador de Kelang" (wi h Susana Consuegra Rodríguez), workshop Nexos Coloniales. Iberia, De Colonia A Potencia Colonial, Colegio de Arqueólogos de Madrid (Spain), February 26, 2015

Panteleimon Eleftheriou

"Topological Properties for Semilinear Sets", Model Theory Month in Muenster, conference at the University of Muenster (Germany), May 17-20, 2016

Bianca Gaudenzi

"Selling Fascism? Advertising the Future in Fascist Italy and NS-Germany", speaker at the Zeitgeschichtliches Alpenkolloquium (Konstanz-Wien-Augsburg), Freising, July 7-9, 2016.

"Selling Fascism? Advertising the Future in Fascist Italy and NS-Germany", speaker at the Columbia-Konstanz research workshop on 'Global Fascism' organised by Prof. V. de Grazia and S. Reichardt, June 1, 2016

"Advertising the Future in Fascist Italy and Nazi Germany", invited talk at the Humanities Society Talk Series, Wolfson College, Cambridge (UK), March 8, 2016

"Selling Facism? Advertising the Future in Fascist Italy and Nazi Germany," invited talk at the Institut für Wirtschafts- und Sozialgeschichte (Prof. H. Berghoff), University of Göttingen (Germany), January 13, 2016

"Tra propaganda e commercio: la politicizzazione dell'industria pubblicitaria nella Germania nazionalsocialista", speaker at the annual SISCALT conference on 'Politische Kommunikation und Neueste Geschichte in Italien und Deutschland – Comunicazione politica e storia contemporanea in Italia e Germania', University of Bologna (Italy), November 2-3, 2015

"Was können wir bei der Promotion aus dem Ausland lernen?", invited talk at the Oberseminar für Zeitgeschichte (Prof. Conze) and at the Doktoranden-Forum, University of Marburg (Germany), June 24-25, 2015

Denis Gebauer

"Recent Insights into the Early Stages of Mineral Formation", GMDM4 – The Granada-Münster Discussion Meeting 2016, University of Münster, Münster (Germany), November 24-25, 2016

"Nucleation", CRC 1109 Summer School 2016: "Metal Oxides & Water – Nucleation, Reactivity, and Growth", Berlin (Germany), August 22-25, 2016

"On the Role of Pre-Nucleation Clusters in Crystallization", 18th International Conference on Crystal Growth and Epitaxy (ICCGE18), session "Organic and Biological Crystallization (G05)", Nagoya (Japan), August 7-12, 2016

"The Molecular Mechanism of Iron(III) Oxide Nucleation", Goldschmidt 2016, Yokohama (Japan), June 26 - July 1, 2016

"The Pre-Nucleation Cluster Pathway", "Non-Classical Crystallization and Mesocrystals", "Biomineralization and Biomimetics", summer school on Crystal Nucleation, organized by Prof. Joop ter Horst for the "EFCE Working Party for Crystallization", University of Strathclyde, Glasgow (UK), June 20-24, 2016

"Pre-Nucleation Clusters in Mineralization", Anorganisch-chemisches Kolloquium, Institut für Anorganische und Analytische Chemie, Universität Freiburg (Germany), January 21, 2016

"On the Pre-Nucleation Cluster Pathway", Crystallisation Down Under 2016 – A Molecular Scale Understanding of Crystal Growth, Curtin University (Nanochemistry Research Institute and Leverhulme Trust), Perth (Australia), January 11-12, 2016

"On the Pre-Nucleation Cluster Pathway", International Chemical Congress of the Pacific Basin Societies (PacifiChem), Honolulu, Hawaii (USA), December 15-20, 2015

"Formation of Biominerals: On the Pre-Nucleation Cluster Pathway & he Multiple Roles of Addi ives", symposium on Colloids and Surfaces in Biology and Biomaterials, Uppsala University, Uppsala (Sweden), November 4-6, 2015

"On the Pre-Nucleation Cluster Pathway", Nanocem Workshop on Nucleation and Growth, Research Center of Lafarge, Saint-Quentin, Lyon (France), October 1, 2015

"Sweet on Biomineralization: Effects of Carbohydrates on the Early Stages of Calcium Carbonate Crystalliza ion", BiominXIII — 13th International Symposium on Biomineralization, Granada (Spain), September 17-19, 2015

"Pre-Nucleation Clusters as Solute Precursors in Phase Separation", 20th American Conference on Crystal Growth and Epitaxy (ACCGE-20), 17th U.S. Biennial Workshop on Organo-metallic Vapor Phase Epitaxy (OMVPE-17) and The Second 2D Electronic Materials Symposium, Big Sky, Montana (USA), August 2-7, 2015

"On the Pre-Nucleation Cluster Pathway of Mineral Formation", Kristallographisches Oberseminar, Fakultät für Geowissenschaften, Departement für Geo- und Umweltwissenschaften, Ludwig-Maximilians-Universität München (Germany), May 29, 2015

"Pre-Nucleation Clusters as Molecular Precursors to Nanoscopic Liquid-Liquid Demixing", European Geosciences Union General Assembly 2015, Vienna (Austria), April 15, 2015

Roxana Halbleib

"A Latent Factor Model for Panels of Realized Volatilities", Conference on Computational and Financial Econometrics, Seville (Spain), December 2016

"Estimating Stable Latent Factor Models by Indirect Inference", Statistical Week Conference, Augsburg (Germany), September 15, 2016

"Estimating Stable Latent Factor Models by Indirect Inference", Computational Methods in Econometrics: a Workshop in Honor of Giorgio Calzolari, Florence (Italy), October 24, 2016

Wolf Hütteroth

"Insect Neuroanatomy", 3rd INsecTIME meeting, Rijksuniversiteit Groningen (Netherlands), January 28, 2015

"Representation of Short-Acting Sweet Reward and Long-Acting Nutrient Reward in Mushroom Body Dopamine Neurons", 14th European Symposium for Insect Taste and Olfaction (ESITO XIV), Villasimius (Sardinia), September 22, 2015

"Nutrient-Dependence of Memory Processes in Flies – How and Where?", 3rd Nutritional Homeostasis workshop, Bonn (Germany), May 2, 2016

"Palatability and Caloric Value Reinforce Distinguishable Memories via Mushroom Body Dopamine Neurons", 46th Society for Neuroscience meeting, San Diego (USA), November 16, 2016

Michael Kovermann

"NMR Spectroscopy Reveals Catalytically Restrictive Dynamics of a High Energy Enzyme State", invited talk, Universität Zürich (Switzerland), November 16, 2015

"Kerne in Resonanz – Hochauflösende Einblicke in die Welt der Proteinspektroskopie", Antrittsvorlesung, University of Konstanz (Germany), February 11, 2016

Claudius Kratochwil

"Coevolution of Coloration Patterns in Cichlid Fishes through Convergent Gene Regulatory Evolution", Centre for Integrative Neuroscience Tübingen (Germany), September 2016

"Novel Functional Approaches to Study Regulatory Evolution in Cichlid Fishes" (with A. Meyer), Society for Molecular Biology and Evolution (SMBE) Meeting, Vienna (Austria), July 12-16, 2015

Robert Kraus

"A Wolf SNP Marker Panel Optimised for Non-Invasive Samples Based on Fluidigm SNPtype Assays with the 96.96 Genotyping IFC", International Plant & Animal Genome XXIII (PAG XXIII), San Diego (USA), January 2015

"NGS SNP Development & Case Studies of SNP Application in Ornithology", DNA Analytics Workshop of the "Fachgruppe DNA Analytik" of the "Deutsche Ornithologen-Gesellschaft (DO-G)", Heidelberg (Germany), February 2015

"The Anseriform Genome - Immune Gene Evolution and Aquatic Adaptation", The B10K workshop – Progress and Future Perspectives, Beijing (China), October 2016

"The Innate Immune Repertoire of the Mallard Duck: Transcriptomic Profiling and Genomic Variation", Heidelberg University, Institute Seminar of Pharmacy and Molecular Biotechnology, Heidelberg (Germany), November 2016

"Genetic Isolation between Coastal and Fishery-Impacted Offshore Bottlenose Dolphin (Tursiops spp.) Populations of North-Western Australia", 89th Annual Meeting of the German Society of Mammalogy, TiHo Hannover - Stiftung Tierärztliche Hochschule Hannover (Germany), September 2015

"Freigelassenes Federwild führt zu kontinent-weiter genetischer Introgression: Die sich ändernde genetische Landschaft der Stockente (Anas platyrhynchos) in Europa", 148th Annual Meeting of the German Ornithology Society "Deutsche Ornithologen Gesellschaft e.V.", Konstanz (Germany), Oktober 2015

"The Genetic Population Structure of Multiple Species of Daphnia Waterfleas", 3rd bwHPC-Symposium, Heidelberg University, Heidelberg (Germany), October 2016

Oleksandra Kukharenko

"Analysis of the simulation data of intrinsically disordered peptide", workshop on Markov modeling and Free Energy calculation, Freie University Berlin (Germany), February 22-26, 2016

"Simulating Aspartic Acid Tripeptide", seminar on Physical Chemistry, University of Konstanz (Germany), May 11, 2016

Andrea Lailach-Hennrich

"Imaginative Experience", What-If Group, University of Konstanz (Germany), November 18, 2016

"Perceiving the Unseen. A Kantian Approach to Amodal Perception", II. International Conference on Philosophy of Mind, University of Minho (Portugal), September 2016

"Wilhelm Wundt on Consciousness and Attention", conference of the European Society for the History of the Human Sciences (ESHHS), Universität Barcelona (Spain), June 2016

"Defending the Synthetic A priori? Kant and Reichenbach", international conference: "Neo-Kantian Perspectives on the Exact Sciences", University of Konstanz (Germany), January 2016 and at the Emundts Colloqium, University of Konstanz (Germany), December 2015

"Wahrnehmung und Imagination. Zu einer aktuellen Debatte über die Rolle der Einbildungskraft für die Wahrnehmung und Kants Beitrag dazu", Internationaler Kant Kongress, Vienna (Austria), September 2015

"Imagination, Mental Imagery, and Amodal Perception", conference of the European Society of Philosophy and Psychology (ESPP), Tartu (Estonia), July 2015

"Amodale Wahrnehmung und Kants Theorie der Einbildungskraft", Department Colloquium, University of Konstanz (Germany), April 2015

"Imagination and the Synthetic A Priori", Department of Philosophy, University of Western Ontario, London (Canada), January 2015

Ben Lambert

"Mean Curvature Flow wi h a Neumann Boundary Condition", GK colloquium, University of Ravensburg (Germany), November 2016

"Geometric Inequalities and Inverse Mean Curvature Flow in a Ball", 38. Süddeutsches Kolloquium über Differentialgeometrie, University of Mainz (Germany), June 2016

"Inverse Mean Curvature Flow inside a Sphere", End of Year London Geometry conference, King's College London (UK), December 2015

"Inverse Mean Curvature Flow Inside a Sphere", Topics in Geometric Analysis seminar, University of Potsdam (Germany), June 2015

Sven Lauer

"Quantified Indicative Conditionals and the Relative Reading of Most" (with Prerna Nadathur), California Universities Semantics and Pragmatics (CUSP) 9, University of California, Santa Cruz (USA), October 21-22, 2016

"(Un)conditional Imperatives, (un)conditional Modals, and (un)conditional Endorsement", Seminar für Sprachwissenschaft, Eberhard Karls Universität Tübingen (Germany), June 6, 2016

"Temporal interpretation and the Performative Use of Modals", California Universities Semantics and Pragmatics (CUSP) 8, Stanford University (USA), November 6-7, 2015

"Speech Act Operators vs. Extra-Compositional Conventions of Use: What Are the Issues?", Speech Act Workshop, Zentrum für Allgemeine Sprachwissenschaft, Berlin (Germany), June 11–13, 2015

"Conditionalized Modal Sentences: Modus Ponens and Streng hening of the Antecedent", Interdisciplinary Logic Colloquium, University of Konstanz (Germany), February 5, 2015

"Exclamatives: The Conventional Dynamic Effect of an 'Expressive' Sentence Type", colloquium of the Department of Linguistics, University of Konstanz (Germany), January 22, 2015

"Doing Things with Words: The Case of Exclamatives", Department of English, University of Göttingen (Germany) January 12, 2015

Bernard Lepetit

"The Teamwork of Lhcx and Xanthophyll Cycle in Providing NPQ in Phaeodactylum Tricornutum", invited talk for he institu ional seminar series of the Centre Algatech, The Czech Academy of Science, Trebon (Czech Republic), November 2016

"Lhcx1 Knockout Causes Loss of qE in Phaeodactylum Tricornutum", 24th International Diatom Symposium, Quebec (Canada), August 2016

"Lhcx1 Knockout Causes Loss of qE in Phaeodactylum Tricornutum", Wissenschaftliche Konferenz der Sektion Phykologie der Deutschen Botanischen Gesellschaft, Leipzig (Germany), March 2016

"From Photoprotection to Light Signaling in Diatoms: The Appearing of the Unexpected", invited talk for the botanical colloquium of the Gutenberg Universität Mainz (Germany), January 2015

Doris Penka

"One Many – Many Readings", Sinn und Bedeutung 21, University of Edinburgh (UK), September 9, 2016

"Degree Equatives – the Same as Comparatives?", workshop on equatives, University of Köln (Germany), December 15, 2016

Michael Pester

"The Cryptic Sulfur Cycle of Freshwater Ecosystems", seminar series at Aarhus University, Aarhus, Denmark), August 10, 2016

"The Importance of Minorities: How Low Abundance Species Contribute to Ecosystem Functions", seminar series at EAWAG, Dübendorf (Switzerland), November 26, 2015

Torsten Pietsch

"Magnetism and Transport in Alumina-Templated Hybrid Nanowires", EMN Prague Meeting, Prague (Czech Republic), June 21-24, 2016

"Transport and Dynamics of Ferromagnetic Josephson Junctions and Superconducting Spin-Valves", workshop on High-Frequency Superconducting Electronics, Björkliden (Sweden), April 10-16, 2016

"Spintronics and Beyond with Atomic-Size Magnetic Contacts", 4th Int. Conference on Frontiers in Nanoscience and Technology COCHIN NANO, Kochi (India), February 20-23, 2016

"THz Spin-Injection Lasing in Hybrid Magnetic Point Contacts", status workshop Research Network "Functional Nanostructures", Bad Herrenalb (Germany), October 1-2, 2015

"Spin-Injection Lasing in Hybrid Magnetic Point Contacts", Controlling Magnetic Nanostructures, University of Konstanz (Germany), September 23-25, 2015

"Non-Equilibrium Spin and Charge Transport in Atomic-Size Heterojunc ions", WMI seminar on Current Topics in Low Temperature Solid State Physics, Garching (Germany), January 16, 2015

Maria Daniela Poli

"De Gasperi (1948-1953) e Adenauer (1949-1963): 'Cancellieri' europeisti, Conference: Alcide De Gasperi, Konrad Adenauer e le politiche della ricostruzione in Italia e in Germania" (with C. Decaro), Link Campus University Rom (Italy), January 26, 2015

"La 'formica' teutonica e le 'cicale' mediterranee: le contraddizioni della locomotiva tedesca", Internationnal Congress: "El Impacto de la crisis económica en las instituciones de la Unión Europea y de los Estados miembros", University of Granada (Spain), February 10-11, 2015

"What Does 'the Populism of the Crisis' Mean?", The 20th Annual Conference of Central European Political Science Association: "Security Architecture in the CEE: Present Threats and Prospects for Cooperation", University of Vilnius (Lithuania), September 25-26, 2015

"Der justizielle Pluralismus der europäischen Verfassungsgemeinschaft", Kolloquium der Öffentlich-Rechtler, University of Konstanz (Germany), December 2, 2015

"La Germania e la governance economica europea", International Congress: "La reforma de la gobernanza económica de la Unión Europea y el progreso de la integración política", University of Granada (Spain), December 10-11, 2015

"Verfassungsvergleich als 'Kern eines globalen Konstitutionalismus' – rechtsvergleichende Studie der Rechtsprechung in Deutschland, Frankreich und Italien", 11. Seminar für Nachwuchsforscher im öffentlichen Recht im Rechtsvergleich, University of Strasbourg (France), June 16-18, 2016

"Der Wandel der politischen Parteien in Italien", Seminar: Der Niedergang der Parlamente, University of Konstanz (Germany), July 11, 2016

"The Judicial Dialogue in Europe – Definition of a Still Unclear Concept", Vienna Journal on International Constitutional Law Conference 2016, Vienna University of Economics and Business (Austria), September 23, 2016

"Der horizontale Dialog zwischen Verfassungsgerichten", 2. Tagung junger Prozessrechtswissenschaftler: Prozessrecht in nationaler, europäischer und globaler Perspektive, Bucerius Law School, Hamburg (Germany), September 30 – October 1, 2016

Jennifer Randerath

"Advanced Education: Apraxie: Diagnostik und Rehabilitation", Rehaklinik Zihlschlacht (Switzerland), November 2015

Gianluca Rastelli

"Control of Vibrational States of a Nanomechanical Resonator by Andreev Reflections", KIT - Karlsruher Institut für Technologie, Karlsruher (Germany), July 18, 2016

"Cooling a Nanomechanical Resonator by Electron Transport in Hybrid Devices", interna ional conference: DPG March Meeting, Regensburg (Germany), March 9, 2016

"Cooling a Nanomechanical Resonator Using Spin-Dependent and Superconducting Electron Transport", Center for Quantum Science, Universität Tübingen (Germany), November 20, 2015

"Control of the Energy of a Nanoresonator Using Electron Transport", School of Physics and Astronomy, University of Nottingham (United Kingdom), September 2, 2015

"Control of Vibrational States by Spin-Polarized Transport in a Carbon Nanotube Resonator", Institut für Theoretische Physik, Theorie der kondensierten Materie, Ulm (Germany), January 22, 2015

"Control of Vibrational States in a Nanomechanical Resonator by Andreev Reflection", international conference Condensed Matter in Groningen, CMD26, Groningen (Netherlands), September 9, 2016

"Ground State Cooling of a Nanomechanical Resonator Using Electron Transport in Hybrid Systems", international conference of the American Physics Society "APS March Meeting 2016", Baltimore (USA), March 16, 2016

"Control of the Energy of a Nanoresonator Using Spin-Dependent Transport", International workshop Max Planck "Charge Transfer meets Circuit Quantum Electrodynamics", Dresden (Germany), July 1, 2015

"Universal Phase Diagram of Quantum Dissipative Many-Body Systems", interna ional conference: DPG March Meeting, Berlin (Germany), March 18, 2015

Tanja Rinker

"Multilingualism in the School Setting", Ringvorlesung Frühe Kindheit, PH Thurgau/University of Konstanz (Switzerland/Germany), November 2016

"Language Profiles of Multilingual Children", conference on Multilingualism – Chances and Perspectives, Landesstiftung Baden-Württemberg, Stuttgart (Germany), July 2016

"Zum Erhalt der Herkunftssprachen in Europa" (with J. Grijzenhout), Kulturwissenschaftliches Kolleg, Universität Konstanz (Germany), February 2016

Antonio Rotolo

"From Archaeology to Technology. La historia de un humanista en el mundo de la tecnología: el caso de Ludwig", Media Lab - University of Granada (Spain), October 26, 2015

"From Archaeology to Technology. La historia de un humanista en el mundo de la tecnología: el caso de Ludwig", Department of Archaeology,Universidad del País Vasco (Spain), October 21, 2016

Sebastian Schutte

"Violence and Civilian Loyalties: Evidence from Afghanistan", NYUAD, Abu Dhabi (United Arab Emirates), October 14, 2015

"Reimbursed Mobile Surveys", Rice University, Houston TX (USA), March 21, 2016

Denis Seletskiy

"Quantitative Measurement of Vacuum Fluctuations in the THz Regime", CLEO Europe 2017, Munich (Germany), June 21-25, 2017

"Heralding Subcycle Quantum Optics" (with C. Riek, P. Sultzer, M. Seeger, A. Leitenstorfer), OSA Ultrafast Phenomena 2016, Santa Fe (USA), July 17-22, 2016

"Subcycle Quantum Optics", ICOOPMA 2016, Montréal (Canada), June 12-17, 2016

"Sub-Cycle Multiterahertz Quantum Optics" (with C. Riek, A. Leitenstorfer), EMN meeting on Terahertz 2016, San Sebastian (Spain), May 15-18, 2016

"Subcycle Quantum Optics: Electric Field Vacuum Fluctuations and Time-Domain Tomography, Casimir and van der Waals Physics: Progress and Prospects", ICAM-I2CAM 2016, Hong Kong (China), Apr. 24-28, 2016

Elena Sturm

"Mesocrystals: Building up 'Crystals' from Nanoparticles" (with I. A. Baburin, J. Brunner, H. Reiner, S. Sturm), Third International Conference on Advanced Complex Inorganic Nanomaterials (ACIN), Namur (Belgium), July 13-17, 2015

"Self-Assembled Mesocrystals: A Case Study of Iron Oxide Nanoparticles" (with J. Brunner, I. A. Baburin, S.Sturm, T. Pietsch), 7th event of the Nanoscience with Nanocrystals international conference series (NaNaX 7), Marburg (Germany), April 4-8, 2016

Margaret Thomas

"Smooth Parameterization in O-Minimal Structures", meeting "Future Directions in Model Theory and Analytic Functions" (Alex J. Wilkie retirement meeting), The University of Manchester (UK), July 9, 2015

"Effective Pila--Wilkie Bounds for Restricted Pfaffian Surfaces", meeting "Ordered Algebraic Structures and Related Topics" (Young Researchers' Session), CIRM, Luminy, Marseille (France), October 13, 2015

"Effective Pila--Wilkie Bounds for Restricted Pfaffian Surfaces", Model Theory seminar, University of Notre Dame, South Bend (USA), November 17, 2015

"Effective Pila--Wilkie Bounds for Restricted Pfaffian Surfaces", Joint Logic and Number Theory seminar, University of Waterloo (Canada), November 24, 2015

"Smooth Parameterization in O-Minimal Structures", Geometry and Model Theory seminar, Fields Institute, Toronto (Canada), November 30, 2015

"The Density of Rational and Algebraic Points on Certain Pfaffian Sets", "Heilbronn Seminar" in Number Theory, University of Bristol (UK), January 20, 2016

"Effective Pila—Wilkie Bounds for Restricted Pfaffian Surfaces", Number Theory seminar, Universität Basel (Switzerland), March 10, 2016

"Smooth Parameterization in O-Minimal Structures", Ordered Algebraic Structures seminar, Université Paris Diderot (France), March 14, 2016

"Effective Pila—Wilkie Bounds for Restricted Pfaffian Surfaces", Model Theory and Groups seminar, Université Paris Diderot (France), March 15, 2016

"Effective Pila—Wilkie Bounds for Restricted Pfaffian Surfaces", Logic Seminar, University of Manchester (UK), March 16, 2016

"The Pila-Wilkie Theorem", summer school in Tame Geometry, University of Konstanz (Germany), July 18-23, 2016

"Parameterization in O-Minimal Structures", workshop "Model Theory: from Fields to Hardy Fields" (meeting dedicated to Lou van den Dries), Fields Institute, Toronto (Canada), August 4, 2016

"Parameterization in O-Minimal Structures", meeting "O-Minimality and Diophantine Geometry", The University of Manchester (UK), September 7, 2016

Julian Torres-Dowdall

"Molecular Evolution of Cone Opsin Genes in Neotropical Cichlids" (wi h A. Meyer), Evolution Meeting, Austin, Texas (USA), June 17-21, 2016

"Evolution of Visual System in the Young Midas Cichlids Radiation" (wi h A. Härer, F. Henning, M. Pierotti, K. R. Elmer, A. Meyer), Cichlid Science Symposium, Graz (Austria), September 6-9, 2015

"Visual Divergence in the Young Midas Cichlids Radiation is Driven by Changes in Gene Expression" (with A. Härer, M. Pierotti, F. Henning, K. R. Elmer, A. Meyer), Evolution Meeting, Guarujá (Brasil), June 26-30, 2015

Grey Violet

"Polynomials, Control, Parametric Stability", Oberseminar Reelle Geometrie und Algebra, University of Konstanz (Germany), April 2015

"Geometry of Univariate Stability: Continuity Argument, Symmetric Powers and Stability Theories", séminaire de géométrie et algèbre effectives, Institut de Recherche mathématique de Rennes (France), January 2016

"Topology of Root Clustering Problems", Oberseminar Reelle Geometrie und Algebra, University of Konstanz (Germany), February 2016

"Geometry and Topology of Unconstrained Parametric Stability Problems", seminar of the Non-A team, INRIA-Lille, Lille (France), March 2016

"Topology and Geometry of D-Stability", Shanghai Yao Tong University, Shanghai (China), October 2016

Nadir Weber

"Escaping (in) the City: Courtly Hunting Practices in and around Seventeenth Century Paris", 13th International Conference on Urban History der EAUH, Helsinki (Finnland), August 24-27, 2016

"Grand Strategy and Local Interests: The Principality of Neuchâtel and he Political Relations of the Kings of Prussia, 1707-1806", international conference "Social Approaches to Eighteenth-Century International History: Diplomacy, Trade and Knowledge as Regional Phenomena", SciencesPo, Paris (France), April 7-8, 2016

"Ho loo, Ho loo, Ho loololoo! Interspezifische Kommunikation und höfische Gesellschaft (Frankreich, 17. Jahrhundert)", Forschungskolloquium für Neuere Geschichte der Universität Bern, Gerschnialp (Switzerland), May 18, 2016 and Signaturen-Kolloquium, Lehrstuhls für Neuere Geschichte, Universität Konstanz (Germany), May 24, 2016

"Une société domestiquée ? Interactions entre hommes et animaux à la Cour de France au XVIIe siècle", Séminaire de recherche "Nouveaux chantiers de l'histoire moderne", Université de Paris 1 – Panthéon-Sorbonne, Paris (France), April 4, 2016"Gouverner et négocier: La cour de Prusse, la principauté de Neuchâtel et la diplomatie européenne (1707-1806)", Association Neuchâtel-Berlin, Château de Cormondrèche, Canton of Neuchâtel (France), March 10, 2016

Leila Whitely

"A panel discussion of Sexism", panel including Professor Sarah Franklin (Cambridge), Professor Cora Kaplan (Queen Mary), Professor Sarah Kember (Goldsmiths), Tiffany Page (Goldsmiths) and Dr Leila Whitley (Konstanz), Goldsmiths University College London (UK), March 2016

"Walls Beyond Border Walls: The US-Mexico Border and Calais", presented at "Borders, Walls and Violence", University of Quebec at Montreal (Canada), June 2016

"Borders as Embodied and Affective", international conference on "Migration, Irregularisation and Activism: Challenging Contemporary Regimes, Racism and Subordination", University of Malmö (Sweden), June 2016

"Constructing the Borders of Europe through Gendered Bodies", National Women's Studies Association 37th Annual Conference: "Decolonality", Montreal (Canada), November 2016

Publications

Janina Beiser

"Modelling Strategic Interactions in a Global Context", in: "Approaches to Geo-Mathematical Modelling: New Tools for Complexity Science", edited by Alan Wilson, p. 293-305, Chichester: John Wiley & Sons 2016.

"International Information Flows, Government Response and the Contagion of Ethnic Conflict", in: "Global Dynamics: Approaches from Complexity Science", edited by Alan Wilson, p. 214-229, Chichester: John Wiley & Sons 2016.

Francesca Biagioli

"Space, Number, and Geometry from Helmholtz to Cassirer", Springer: Archimedes 2016.

"The Philosophy of Ernst Cassirer: A Novel Assessment", book review in: "HOPOS: The Journal of he International Society for the History of Philosophy of Science" 2016, 6(1), p. 164-167.

"Empirical and Formal Conditions in Helmholtz's Theory of Measurement", in: "Limits of Knowledge between Philosophy and the Sciences", edited by Michael Anacker and Nadia Moro, p. 75-101, Milano: Mimesis International 2016.

"Cassirer's View of the Mathematical Method as a Paradigm of Symbolic Thinking", in: "Lectiones & Acroases Philosophicae" 2015, 8(1), p. 193-223.

"The Symbolic Function of Mathematics in Ernst Cassirer's Philosophy of Culture", in: "New Europe College Yearbook 2013-2014", p. 95-120, published 2015.

Klaus Boldt

"Controlling Charge Carrier Overlap in Type-II ZnSe/ZnS/CdS Core-Barrier-Shell Quantum Dots" (with Charusheela Ramanan, Alina Chanaewa, Matthias Werheid, Alexander Eychmüller), in: "J. Phys. Chem. Lett." 2015, 6, p. 2590-2597, doi: 10.1021/acs.jpclett.5b01144, published June 17, 2015.

"Shell Effects on Hole-Coupled Electron Transfer Dynamics from CdSe/CdS Quantum Dots to Me hyl Viologen" (with Peng Zeng, Nicholas Kirkwood, Paul Mulvaney, Trevor A. Smith), in: "Nanoscale" 2016, 8, p. 10380-10387, doi: 10.1039/C6NR00168H, published April 26, 2016.

"Graded Shells in Semiconductor Nanocrystals", in: "Z. Phys. Chem." 2016, doi: 10.1515/zpch-2016-0882, published October 22, 2016.

"Semiconductor-Based Nanoheterostructures: Characterization and Proper ies", in: "Hybrid Nanocrystal Architectures: Synthesis, Properties, and Applications", edited by Davide Cozzoli, London: Imperial College Press (in press).

Julia Boll

"Nostalgia and the Return to the Present", in: "Forgetting", edited by Giovanni Galizia and David Shulman, p 93-95, Jerusalem: Magnes Press 2015.

"Contemporary British Theatre: Breaking New Ground", book review in: "Journal of Contemporary Theatre and Drama in English" 2015 3(2), p. 345-349.

Thomas Böttcher

"Synthetic Quinolone Signal Analogues Inhibiting the Virulence Factor Elastase of Pseudomonas Aeruginosa" (with D. Szamosvári, V. F. Reichle, M. Jureschi), in: "Chem. Commun." 2016, 52(92), p. 13421-13518, doi: 10.1039/c6cc06295d.

"An Additive Definition of Molecular Complexity", in: "J. Chem. Inf. Model." 2016, 56(3), p. 462-470, doi: 10.1021/acs.jcim.5b00723.

"Dynamics of Snake-Like Swarming Behaviour of Vibrio Alginolyticus" (with H. L. Elliott, and J. Clardy), in: "Biophys. J." 2016, 110(4), p. 981-992, doi: 10.1016/j.bpj.2015.12.037.

"An Aromatic Hydroxyamide Attenuates Multiresistant Staphylococcus Aureus Toxin Expression" (wi h J. Vomacka, V.S. Koro kov, B. Bauer, F. Weinandy, M.H. Kunzmann, J. Krysiak, O. Baron, K. Lorenz-Baath, S.A. Sieber), in: "Chem. Eur. J." 2016, 22(5), p. 1622-1630, doi: 10.1002/chem.201503981.

"Wie Bakterien uns mit Naturstoffen krank machen" (with M. Prothiwa, D. Szamosvari), in: "Nachrichten aus der Chemie" 2015, 63(12), p. 1163-1167.

"Phenyl Esters are Potent Inhibitors of Caseinolytic Protease P and Reveal a Stereogenic Switch for De-oligomerization" (with M.W. Hackl, M. Lakemeyer, M. Dahmen, M. Glaser, A. Pahl, K. Lorenz-Baath, T. Menzel, S. Sievers, I. Antes, H. Waldmann, S. A. Sieber), in: "J. Am. Chem. Soc." 2015, 137(26), p. 8457-8483, doi: 10.1021/jacs.5b03084.

"Compounds for Use as an Anti-Bacterial or Anti-Fungal Agent and as a Zinc Sensor" (wi h D. Szamosvari, V. F. Reichle), EP 16001423.9. 2016.

Daniele Brida

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"Das Bestiarium des Duc de Saint-Simon. Zur 'humanimalen Sozialität' am französischen Königshof um 1700", in: "Zeitschrift für Historische Forschung" 43 (2016) Nr. 1, p. 27–59.

"Zahmes Wild? Zu den organisatorischen Hintergründen der spektakulären Jagderfolge frühneuzeitlicher Fürsten", in: "Tierstudien" 8 (2015), p. 93-103.

"Prak iken des Verhandelns – Praktiken des Aushandelns. Zur Differenz und Komplementarität zweier politischer Interaktionsmodi am Beispiel der preußischen Monarchie im 18. Jahrhundert", in: "Prak iken der Frühen Neuzeit. Akteure – Handlungen – Artefakte", edited by Arndt Brendecke, p. 560-570, Köln/Weimar/Wien: Böhlau 2015.

Leila Whitley

"The Disappearance of Race: a Critique of the Use of Agamben in Border and Migration Scholarship", Borderlands, accepted.

Grants & Awards

Tuhin Shuvra Basu

Alexander von Humboldt-Foundation, 2-year postdoctoral fellowship including a German intensive language course (12/2016 – 12/2018)

Janina Beiser

University of Essex (UK) – Department of Government, Michael Nicholson Centre for Conflict and Coopera ion, visiting fellowship (05/2016 – 02/2018)

Francesca Biagioli

University of California Irvine (USA) – Department of Logic and Philosophy of Science, visiting fellowship and stipend of 8,000 USD (spring quarter 2017)

Munich Center for Mathematical Philosophy, visiting fellowship and stipend of 1,200 EUR (04/2016 – 05/2016)

University of Pittsburgh (USA) – Center for Philosophy of Science, visiting fellowship and monthly stipend of 1,700 USD (fall term 2015)

Leeds Centre for History and Philosophy of Science (UK), non-stipendiary visiting fellowship (02/2015 – 04/2015)

Klaus Boldt

German Academic Exchange Service (DAAD), PPP Australia travel grant, project "Mapping Ultrafast Energy Relaxation in Semiconductor Nanocrystals" in collaboration with Prof. Trevor Smith at the University of Melbourne, 8,462 EUR (2016)

Julia Boll

German Research Foundation (DFG), three-year full-time research position, additional travel, conference, workshop and assistant funding, 326,800 EUR (10/2015)

German Academic Exchange Service (DAAD), conference travel funding, 2,065 EUR (10/2015)

University of Konstanz, Konstanzia Fellowship including means for co-funding, mentoring, inviting speakers, network meetings, and training, 10,000 EUR (09/2015 – 03/2017)

University of Konstanz, Young Scholar Fund, conference travel grant, 2,202 EUR (06/2015)

Thomas Böttcher

Industrial sponsoring mainly by Novartis and Roche, funding for the Symposium "Small Molecules & Microbes", 6,660 EUR (2016)

University of Konstanz, Young Scholar Fund, project "Biofilm-Mineralization" in collaboration with Denis Gebauer, 24,000 EUR (2016)

German Research Founda ion (DFG), Collaborative Research Center SFB 969 - C06, "Bacterial Signals Influencing Cross-Species Proteostasis", 240,800 EUR (2016)

Fonds der Chemischen Industrie (FCI), 10,000 EUR (2015)

German Research Founda ion (DFG), Excellence Initiative, Memosystems Project: "Neurodegenerative Microbial Metabolites", 25,500 EUR (2015)

"Junge Akademie" at the Berlin-Brandenburg Academy of Sciences and Humanities (BBAW) & German National Academy of Sciences Leopoldina, elected as a member (2015 – 2020)

Daniele Brida

German Research Founda ion (DFG), Emmy Noether Programme, project "Femtosecond Dynamics in Layered Materials", 1,650.000 EUR (2015 – 2020)

German Research Founda ion (DFG), Collaborative Research Center SFB 767, "Electron Transport in Nanostructures Controlled by Phase-Locked Single-Cycle Light Pulses", 510,000 EUR (01/2016)

European Physical Society, Fresnel Prize "for the development of broadly tunable few-optical-cycle laser sources and their application in he investigation of primary photo-induced processes in condensed matter systems" (2015)

María Cruz Berrocal

Alexander von Humboldt Foundation, Humboldt Alumni Award for the project "Musem Networks: People, Itineraries and Collections" (2016 – 2018)

University of Konstanz – Equal Opportunity Council, funding for babysitting in fieldwork in Taiwan, 1,000 EUR (2016)

University of Konstanz, Excellence Initiative, funding for traveling and research work in Taiwan (experts Frederique Valentine and Alexander Chevalier) and a research stay in Konstanz (Christophe Sand), 10,200 EUR (2016)

European Research Council, invited to the last step of the Consolidator Grant Call with the project "NAO: Networks Across Oceania. Studying the Impacts of the Earliest European Presence in the Western Pacific, 16th-17th centuries AD", 1,978.875 EUR (11/2015)

University of Konstanz, Excellence Initiative, funding for the organization of the 1st NAO Workshop, 6,740 EUR (2015)

National Geographic Society Science and Exploration Europe, pre-application "The Study of Early Colonialism in the Pacific: Archaeology in Small Islands, History of Global Processes", approved (2016)

Volkswagen Stiftung, call 'Mixed Methods' in the Humanities? – Funding Line 1 (Collabora ive 'Hybrid Projects'), pre-application "Visual Analysis for eArchaeology: Methodology and Tools for the Study of the Earliest European Presence in the Pacific Based on Heterogeneous Data", approved, second evaluation step (09/2016)

Bianca Gaudenzi

So heby's London, funding for the international conference "From Refugees to Restitution: The History of Nazi Looted Art in the UK in Transnational and Global Perspective", 6,000 GBP (03/2016)

University of Konstanz – International Office, conference grant for an international workshop on "Historicising Cultural Brokers: Agency and the Limits of Power, 1700 to the Present", 4,700 EUR (12/2015)

University of Cambridge (UK), DAAD-Cambridge Research Hub in German studies, 3-year conference grant (2016-2018) for the Cambridge-Konstanz-Vanderbilt research project on "Cultural Brokers and Their Networks, 1700 to the Present", 15,000 GBP (10/2015)

Denis Gebauer

German Research Foundation (DFG), Co-PI in the Collaborative Research Center SFB 1214 – A07, "Bifunctional Hybrid Nanoparticles via Calcium Carbonate Crystallization Driven by Engineered Protein Surfaces" with Prof. Andreas Marx, 316,400 EUR (07/2016 – 06/2020)

German Research Foundation (DFG), Co-PI in the Collaborative Research Center SFB 1214 - A02, "The Onset of Anisotropy during Calcium Carbonate and Phosphate Mineralization" with Prof. Karin Hauser, 309,400 EUR (07/2016 – 06/2020)

Roxana Halbleib

University of Konstanz – Department of Economics, Teaching Prize for Junior Scientists (2016)

University of Konstanz, Excellence Initiative, guest lectureship for Professor Giorgio Calzolari from University of Florence (Italy), 3,000 EUR (2016)

Michael Kovermann

University Konstanz, Young Scholar Fund, project "Quench-Flow-NMR-Studie: Studium der Konformationsdynamik und der Ligandenaffinität eines Mehrdomänenproteins", 42,000 EUR (12/2015)

German Research Foundation (DFG), Collaborative Research Center SFB 969 - B09, "Multiskalensimulationen und NMR-Spektroskopie an Ubiquitinketten: Verknüpfungschemie und Ketteneigenschaften", 220,800 EUR (11/2015)

Baden-Württemberg Stiftung, Juniorprofessurenprogramm Baden-Württemberg, project "Development and Application of 19F NMR Spectroscopy on Proteins", 157,000 EUR (09/2016)

Claudius Kratochwil

German Research Foundation (DFG), research grant, project "Evolution of Transcriptional Regulation as Motor of Morphological Diversification in Cichlid Fishes" (KR 4670/2-1), 325,600 EUR (2016 – 2019)

Baden-Württemberg Stiftung, Elite Program for Postdocs, "Uncovering the Molecular Mechanisms Underlying the Repeated Evolution of Adaptive Color Patterns in Cichlid Fishes", 110,000 EUR (2016 – 2019)

University of Konstanz, Young Scholar Fund, 23,000 EUR (2016)

Robert Kraus

Max Planck Society, Next Generation Sequencing grant, project "The Anseriformes Genome Project", 80,000 EUR (2015)

University of Konstanz, Young Scholar Fund, project "The Anseriformes Genome Project", 20,000 EUR (2016)

German Society for Mammalian Biology (DGS), project "Gene ic Structure of Social Networks in a Bat That Uses Roosts as Information Centres", 9,000 EUR (2016)

Sven Lauer

German Research Foundation (DFG), Emmy Noether Programme, project "What Is It to Ask a Question? A Formal Pragma ic Investigation of Interrogative Force", 782,250 EUR (2016 – 2021)

Bernard Lepetit

German Research Foundation (DFG), research grant, PI of the project "Lhcx1 Knock-Out Mutants as a Powerful Tool to Study Photoprotection in the Diatom Phaeodactylum Tricornutum" (LE3358/3-1), 266,000 EUR (2015)

Michael Pester

University of Konstanz, Young Scholar Fund, PI of he project "Sulfur Microorganisms in Lake Constance Sediments – SMILES", 39,900 EUR (2015)

Torsten Pietsch

University of Konstanz, Young Scholar Fund, project "Spin-Transport and Magnetization Dynamics in Hybrid Magnetic Nanowires", 49,000 EUR (2015)

German Research Founda ion (DFG), research grant, project "Spin- and Charge Dynamics in Ferromagnetic Josephson Junctions", 234,000 EUR (2016)

Gianluca Rastelli

German Research Founda ion (DFG), research grant, project "Non-Equilibrium Transport and Dynamics in Conventional and Topological Superconducting Junctions", 148,550 EUR (2016)

University of Konstanz, Young Scholar Fund, project "Ad-Majora: Andreev Spectroscopy for Majorana States", 46,000 EUR

Ministry of Science, Research and the Arts (MWK) Baden-Württemberg, Research Seed Capital (RiSC) grant, project "Many-Body Interactions and Decoherence in Superconducting Josephson Qubits", 92,000 EUR (2015)

Tanja Rinker

Baden-Württemberg Ministry for Education and Research, project leader and PI of "Supporting Academic Language Development: New Perspectives on German as a Second Language in the Classroom" with Janet Grijzenhout, 926,750 EUR (2016 – 2021)

University of Konstanz, internationalization grant for a lecture series with Janet Grijzenhout and Svenja Kornher, 5,000 EUR (2016)

International Lake Constance University, conference funding "Multilingualism in Schools and Daycare: New Challenges and New Paths" with Janet Grijzenhout and Svenja Kornher, 7,996 EUR (2015)

University of Konstanz, Excellence Initiative, project "Transferplatform 'Multilingualism in Schools and Daycare'" with Janet Grijzenhout and in cooperation with the Italian General Consulate, School Board Konstanz and Day Care Centers Konstanz, 162,800 EUR (2015 – 2017)

Nina Schneider

German Research Founda ion (DFG), project grant, 7,000 EUR (2016)

University of Catalonia (Spain), conference and archival research trip to New York (USA), 5,000 EUR (2016)

German Academic Exchange Service (DAAD), conference grant for New York (USA), 1,900 EUR (2016), withdrawn

Volkswagen Foundation, funding for an international symposium, 25,000 EUR (2015)

German Research Founda ion (DFG), research grant for the project "Die historische Relevanz und politische Funktion der Brasilianischen Wahrheitskommission (2012-2014): Rezeption des Abschlussberichtes", 43,200 EUR (2015)

Sebastian Schutte

Deutsche Stiftung Friedensforschung, project grant, project "Measuring Violence and Emergent Hostility in Ongoing Civil Wars: a Mobile Phone-Based Approach", 88,000 EUR (2016)

Denis Seletskiy

German Research Foundation (DFG) & French National Research Agency (ANR) co-fund, Co-PI of the project "Probing Phonon-Matter Interactions at the Nanoscale", 390,000 EUR (2016-2019)

German Research Foundation (DFG), Co-PI in the Collaborative Research Center SFB 767 "Controlled Nanosystems: Project B02: Ultrafast Control of Few-Fermion States in Quantum Dots", 516,100 EUR (2016-2019)

Julian Schwinger Foundation, travel grant (Hong Kong, CN), 1,000 EUR (2016)

Elena Sturm

DM GmbH, research grant, project "Mineralization Precursors for the Mineralization of Hard Tooth Tissue" with Prof. Helmut Cölfen, 108,000 EUR (07/2016 -06/2018)

Gebr. Brasseler GmbH & Co. KG, research grant, project "Machbarkeitsstudie zur Entwicklung eines biomimetischen Füllungsmaterials für kariöse Zähne (Kurzbezeichnung: BIOFIL)" Prof. Dr. Helmut Cölfen, 96,268 EUR (12/2014 – 11/2015)

German Research Foundation (DFG), Collaborative Research Center SFB 1214, "Mesocrystals: Formation, Structure and Properties", 581,100 EUR (07/2016 – 06/2020)

Margaret Thomas

Volkswagen Foundation, funding for an international summer school in 'Tame Geometry,' 34,200 EUR (awarded 07/2015, summer school held 07/2016); co-application with Pantelis Eleftheriou (Zukunftskolleg, University of Konstanz), Prof. Salma Kuhlmann (University of Konstanz), Prof. Jonathan Pila (University of Oxford, UK) and Prof. Daniel Plaumann (TU-Dortmund, Germany/Zukunftskolleg, University of Konstanz)

Fields Institute Toronto (Canada), postdoctoral fellowship for the thematic program (research semester) on "Unlikely Intersections, Heights, and Efficient Congruencing", 25,000 CAD (01/2017 – 06/2017)

Julian Torres-Dowdall

German Research Founda ion (DFG), research grant, project "Does side matter? The evolution of asymmetric genitalia in livebearing fish", 324,400 EUR (2015)

University of Konstanz, Young Scholar Fund, 37,500 EUR (2016)

Nadir Weber

Swiss National Science Foundation, printing subsidies for he volume "Protegierte und Protektoren", 9,177 SFR (01/2016)

Fritz Thyssen Stiftung, support of the Conference "Animals at Court", 12,000 EUR (12/2016)

Funding Programmes

The Zukunftskolleg offers its Fellows a close-knit and diverse network of support. This not only creates ideal working conditions for young scholars but also provides the best possible preparation for their scientific careers. Some support measures are also open to Senior Fellows, Associated Fellows, and postdoctoral researchers at the University of Konstanz.

Co-Funding

This programme offers financial support for Fellows to co-fund the human and material resources needed for their projects at the Zukunftskolleg (such as student/research assistants, conferences, equipment, research trips or consumables). Co-Fund applications less than EUR 3,000 are not listed.

Unai Atxitia

Funding for research stays at the Instituto Català de Nanociència i Nanotecnología in Barcelone (Spain), and the "Thin Films" group at Cavendish Laboratory, University of Cambridge (UK), and for the international workshop "Controlling Magnetic Nanostructures", September 2015.

Magdalena Balcerak Jackson, Brendan Balcerak Jackson, Sven Lauer

Funding for a scientific retreat in Filzbach, Switzerland, organized for "The Group Foundations of Semantics", July 2015.

Tuhin Shuvra Basu

Funding for a Cary 60 Instrument (UV-Vis spectrophotometer), an ultraviolet-visible spectrophotometer, and a LABstar Glove Box MBRAUN.

Francesca Biagioli

Funding for the international conference "Neo-Kantian Perspectives on Science", January 2016.

Julia Boll

Funding for the "Pedagogical Skills Reading Group", Teaching and Research and for a student assistant

Thomas Böttcher

Funding for a symposium/workshop with the title "Small Molecules and Microbes" (October 8-10, 2016) and to conduct the research project "Are Metabolites of Honey Bee Symbionts Important for Bee Health?"

Monika Class

Funding for the workshop "The Other Senses in Literary and Medical Culture" (July 29-31, 2015), for short-term childcare, a student assistant position, proofreading and the participation in two courses offered by the Hochschuldidaktik Programm.

María Cruz Berrocal

Funding to conduct the research project "The Study of Early Colonialism in the Pacific: Archaeology in Small Islands, History of Global Processes".

Denis Gebauer

Funding for the participation in conferences such as: PacifiChem in Honolulu (USA), the 13th International Symposium on Biomineralization BiominXIII, Granada (Spain), and a conference in Montana (USA). Funding for an ERC interview training in Bonn and a student assistant position.

Barbara Hausmair

Funding for book indexing, archival research, conference travel.

Wolf Hütteroth

Funding for microscope usage costs at the BioImaging Center (BIC), for maintenance costs for a 3D analysis software and to conduct the research project "Influence of Internal State Signals on Memory-Reinforcing Dopamine Cells".

Claudius Kratochwil

Funding to cover the 10% contribution of the home institution requested by the BW-Stiftung in order to apply within the Elite-Programme.

Julia Langkau

Funding to prolongate the contract of a student assistant, for a research visit at the Unversity of Miami, and for the workshop "Imagining Fictional Worlds".

Bernard Lepetit

Funding to cover the 10% contribution of the home institution requested by the BW-Stiftung in order to apply within the Elite-Programme.

Marilena Manea

Funding to conduct the research project "Development of Bioconjugates as Therapeutic Agents for Ageing-Associated Diseases".

Randolf Menzel

Funding for a research assistant.

Jennifer Randerath

Funding to conduct the research project "Motivated Motor Cognition: Connecting Ideomotor Effects to Implementation Intentions".

Tanja Rinker

Funding to attend the Annual Meeting of the Cognitive Neuroscience Society (CNS) in New York City, USA, April 2-5, 2016.

Margarita Stolarova

Funding for student assistants and travel costs to finalize and publish several studies conducted during her fellowship.

Attila Tanyi

Funding for the workshop "The Significance of Borders: Theoretical and Empirical Perspectives" (to take place in summer 2017).

Andreas Thum

Funding for the international workshop "Brain Anatomy – Recent Approaches to Reconstruct the Neuronal Network of the Drosophila Larvae on Light Microscopy Level" (April 22-23, 2016) and to cover the infrastructure usage of the Bioimaging Center and Electron Microscopy Center for his research group.

Julian Torres Dowdall

Funding to conduct a transcriptomatic analysis within the project "Effects of early life stress in patterns of gene expression in a livebearing fish"

Mentorship

The Mentorship Programme enables all postdoctoral researchers at the University of Konstanz to network with distinguished colleagues both in Germany and abroad, and to maintain these contacts.

Raul Acosta-Garcia (History and Sociology) and Mentor
Trevor Stack (University of Aberdeen, UK)

Madeleine Bieg (Psychology) and Mentor
Helen Watt (Monash University in Melbourne, Australia)

Hannah Burger-Kaminski (Biology) and Mentor
Robert Raguso (Cornell University Ithaca, USA)

Cindy Daase (Politics & Public Administration) and Mentor
Christina Murray (University of Cape Town, South Africa)

Charu Goel (Mathematics and Statistics) and Mentor
Bruce Reznick (University of Illinois, Urbana-Champagne, USA)

Nora Hangel (Philosophy) and Mentor
Jutta Schickore (Indiana University Bloomington, USA)

Annette Hautli-Janisz (Linguistics) and Mentor
Chris Reed (University of Dundee, UK)

Maria Infusino (Mathematics and Statistics) and Mentors
Tobias Kuna (University of Reading, UK), and
Murray Marshall † (University of Saskatchewan, Saskatoon, Canada)

Robert Kraus (Biology) and Mentor
Guojie Zhang (University of Copenhagen, Denmark)

Michael Pokojovy (Mathematics and Statistics) and Mentor
Marcus Jobe (Miami University in Oxford Ohio, USA)

Maria Daniela Poli (Law) and Mentor
Dian Schefold (Universität Bremen, Germany)

Tinette Schnatterer (Politics & Public Admin.) and Mentor
Vincent Tiberj (University of Bordeaux, France)

Marijn Stok (Psychology) and Mentor
Maarten Vaansteenkiste (Ghent University, Belgium)

Dmytro Sysoiev (Chemistry) and Mentor
Valentin Chebanov (National Academy of Sciences, Ukraine)

Eunike Wetzel (Psychology) and Mentor
Brent W. Roberts (University of Illinois, USA)

Elizabeth Yohannes (Biology) and Mentor
Raymon W. Lee (Washington State University, USA)

Interdisciplinary Collaborative Projects

The Interdisciplinary Collaborative Projects Programme aims to promote research collaborations between young researchers. An interdisciplinary research project gives grant holders the opportunity to identify and explore new, innovative and/or risky research perspectives with neighbouring disciplines and across disciplines. This funding instrument is open to all postdoctoral researchers at the University of Konstanz.

Bernard Lepetit (Biology) with **Daniele Brida** (Physics): "Investigating the Major Photoprotection Mechanism of Diatoms with Ultrafast Transient Absorption Spectroscopy"

Michael Pester (Biology/Microbiology) wi h **Wayne Dawson** (Biology/Ecology): "Looking Inside the 'Black Box' of Soil in Plant-Soil Feedback Experiments: Does the Plant Root Microbiome Differ According to Plant Species Identity and Plant Phylogenetic History?"

Sebastian Schutte (Politics and Public Administration) with **Roos van der Haer** (Politics and Public Administration): "Conducting Large-Scale Surveys through SMS and Mobile Payments in India"

Elena Sturm (Chemistry) with **Torsten Pietsch** (Physics): "Mesocrystals from Magnetic Nanoparticle Assemblies: From Structure-Property Relation to Applications"

Transdepartmental Collaborative Teaching

This funding programme aims to promote the development of new teaching courses and expand departmental syllabi. It gives grant holders the opportunity to explore new, innovative topics in teaching and to further develop their teaching skills and teaching approach across disciplines. This funding instrument is open to postdoctoral researchers at the University of Konstanz in cooperation with Fellows of the Zukunftskolleg.

Julia Boll (Literature) with **Thomas Böttcher** (Chemistry), **Gianluca Rastelli** (Physics), **Andreas Thum** (Biology), and **Giovanni Galizia** (Biology): "Science/Stage"

Julia Boll (Literature) with **Andrea Lailach-Hennrich** (Philosophy): "Recognition in Theatre, Literature and Philosophy"

María Cruz Berrocal (History and Sociology) with **Felipe Bate** (History), and **Alison Wylie** (Philosphy): "Archaeology in Theory"

Sarang Dalal (Psychology) with **Maciej Gratkowski** (Computer Science): "Principles of Electrophysiology in the Real World"

Intersectoral Cooperation Programme

The Intersectoral Cooperative Programme aims to develop cooperation between Zukunftskolleg Fellows and the non-academic sector. Grants are given to support cooperation that fosters joint research projects with industrial partners, companies, social institutions, cultural institutions, archives, public bodies, or non-profit organisations. This funding instrument is open to Fellows of the Zukunftskolleg.

Jennifer Randerath (Psychology) in cooperation with the Kliniken Schmieder, "From Development to Application: An Approach to Bridging the Difficulties of Translational Research"

María Cruz Berrocal (History and Sociology) with **Beatriz Robledo Sanz** (Head of the Department of Ethnology, Museo de América, Madrid), "The Study of Early Colonialism in the Pacific: Archaeology in Small Islands, History of Global Processes"

Investment Programme for Research

The Investment Programme for Research aims to improve apparatus and equipment in research. Fellows can apply for apparatus requiring an outlay of between EUR 10,000 and EUR 50,000 for use by Fellows in conducting their research. This funding instrument is open to Fellows of the Zukunftskolleg.

Unai Atxitia (Physics)

Two Nvidia Tesla K80 dual high performance computation units and two high performance computation (HPC) nodes

Klaus Boldt (Chemistry), **Denis Gebauer** (Chemistry), **Torsten Pietsch** (Physics), and **Elena Sturm** (Chemistry)

Field emission gun (FEG), which was installed on the High Resolution Transmission Electron Microscope (HR TEM) JEOL JEM 2200FS that is part of the Nanolab jointly run by he Departments of Chemistry and Physics

Thomas Böttcher (Chemistry)

Lyophilizer

Daniele Brida (Physics)

Leica microscope including objectives, camera, and polarization contrast

Maite Crespo Garcia (Psychology)
Waveguard EEG caps

Wolf Hütteroth, **Andreas Thum**, and **Tilman Triphan** (all Biology)

High-end resolution multi-camera system for tracking Drosophila behavior at high-speed in 3D

Claudius Kratochwil (Biology)

Fully automized upright Leica DM6 B microscope

Michael Pester (Biology)

Greenhouse Gas Chromatograph without ECD

Independent Research Grant

The Independent Research Grant aims to promote independent research by researchers who are in the early stages of their postdoctoral work. The Zukunftskolleg invites applications for financial support of up to EUR 3,000 for projects that help the individual applicant attain scientific independence. This funding instrument is open to all postdoctoral researchers at the University of Konstanz.

Geoffroy Aubry (Physics)

"Multiple Light Scattering in a Disordered Assembly of Monodisperse High Refracting Index Nanospheres"

Tina Bögel (Linguis ics)

"How Frequency Influences the Strength of Prosodic Boundaries"

Hannah Burger (Biology)

"Chemical Communication and Speciation in the Bee Taxa Colletes"

Georgiana Caltais (Computer and Information Science)

"Causality Checking in Software-Defined Networks (CSDN)" and "A Process Algebraic Approach to Causality Checking (PAACC)"

Louis-Solal Giboin (Sports Science)

"Understanding the Neural Control of Balance"

Annette Hautli-Janisz (Linguistics)

"Debating in The Economist – An Automatic Discourse Analysis"

Amber Makowicz (Biology)

"Mechanisms of Kin Recognition in a Unisexual Fish"

Daniel Münch (Biology)

"Modification of Drosophila Food Selection Behavior by Modulation of Labeled Line Olfactory Sensory Neurons"

James Odendal (Chemistry and Physics)
"Dynamic Non-Equilibrium Self-Assembly vs. Static Self-Assembly"

Astrid Rohwedder (Biology)

"The Role of RNA in Memory and Learning"

Ioana Salvarina (Biology)

"Past Diet of African Small Mammals Revealed with Stable Isotopes on Museum Collections"

Verena Seibel (Sociology)

Funding for conducting a vignette pilot study about welfare chauvinism among immigrants

Andreas Weiler (Computer and Information Science)

Funding for designing an evaluation toolkit for Twitter event detection techniques

Gudrun Winter (Biology)

"Biochemical and Physiological Characterization of Arginine Degrading Enzymes in Arabidopsis"

Thomas Woehler (Sociology)
"Development of a Software Tool which Facilitates Geocoding with OSM Data"

Maria Zhukova (Literature)

"TV-Discourse in Film and Literature in 1960-90th in Russia

Teaching

Tuhin Shuvra Basu

WS 2014/15-WS 2015/16: Optical Pumping, Physikalisches Fortgeschrittenenpraktikum, tutorium

Francesca Biagioli

WS 2016/17: Kant und die Methode der Transzendentalphilosophie, seminar
SS 2016: Historische Einführung in die Wissenschaftstheorie, seminar
SS 2016: Unterschiedliche Auffassungen über die Aufklärung im 20. Jahrhundert: Adorno und Cassirer, seminar
SS 2015: Ernst Cassirers Kulturphilosophie, seminar

Klaus Boldt

WS 2016/17: Currrent Issues and Methods in Nanoscience, lecture
WS 2015/16: Inorganic Materials and Nanotechnology, lecture

Julia Boll

SS 2016: The Verse Novel: Adventures in Form, seminar
WS 2015/16: A Journey through British Medieval Literature and Theatre, seminar
SS 2015: Recognition in Theater, Literature and Philosophy, seminar
SS 2015: British Romantic Poetry, seminar
SS 2015: Science / Stage: an Experiment, seminar
WS 2014/15: James Joyce, Ulysses, seminar

Thomas Böttcher

WS 2014/15-2016/17: Neuere Arbeiten aus dem Gebiet der Naturstoffisolation und Strukturaufklärung, seminar
SS 2016: Organische Chemie für Biologen, lecture

María Cruz Berrocal

SS 2015: Philosophy of Archaeology, practical course
SS 2015: Archaeology in Theory, practical course
SS 2015: Archaeological colloquium

Panteleimon Eleftheriou

SS 2016: Modelltheorie, seminar
WS 2015/16: Topics in Model Theory, lecture

Denis Gebauer

WS 2014/15-WS 2016/17: Kolloquium Physikalische Chemie Arbeitsgruppenübergreifendes Seminar über neuere Forschungsergebnisse, seminar
SS 2016: Auf dem Gebiet der Physikalischen Chemie: Phasenumwandlung und Kristallisation, academic supervision
WS 2015/16: Physikalische Chemie IV, lecture and practical course
SS 2015: Auf dem Gebiet der Physikalischen Chemie: Phasenumwandlung und Kristallisation, academic supervision
WS 2014/15: Physikalische Chemie IV, lecture and practical course

James Griffiths

WS 2016/17: Syntax III: Topics in ellipsis, seminar

Roxana Halbleib

WS 2016/17: Advances in Empirical Finance, seminar
WS 2016/17: Advanced Econometrics, lecture
WS 2016/17: Financial Econometrics, lecture
SS 2016: Big Data in Economics and Finance, seminar
SS 2016: Microeconometrics, lecture and prac ical course
WS 2014/15: Appplied Econometrics, lecture
WS 2014/15: Financial Econometrics, lecture
WS 2014/15: Applied Econometrics, lecture and seminar

Wolf Hütteroth

SS 2016: Teil 2 Organische Entwicklungsbiologie, practical course
SS 2015: Neurobiology, course
SS 2015: Nature and Culture as false dichotomy, seminar

Claudius Kratochwil

WS 2016/17: Evolutionary and Developmental Biology, seminar
WS 2016/17: Methods in Biology, lecture
WS 2016/17: The Arrival of the Fittest: How development changes contributes to evolution, seminar
SS 2016: Genome Evolution, seminar
SS 2016: Entwicklungsphysiologie, lecture
SS 2016: Methods in Biology, lecture
WS 2015/16: Methods in Biology, lecture
WS 2015/16: Innovations in Vertebrate Evolu ion, seminar
WS 2015/16: Evolutionary and Developmental Biology, seminar
SS 2015: Evolu ion and Zoology, seminar
WS 2014/15: Evolutionary and Developmental Biology, seminar

Robert Kraus

WS 2016/17: Molecular Ecology, hands-on computer lab
WS 2015/16-WS 2016/17: Molecular Ecology, journal club
WS 2015/16-WS 2016/17: Migration and Immuno-Ecology, seminar
SS 2016: Evolutionary Organismal Biology, lecture

Andrea Lailach-Hennrich

WS 2016/17: The Second Person. Theories of Intersubjectivity, seminar
SS 2016: Edmund Husserl: Logical Investigations, seminar
SS 2015: Recognition in Theatre, Literature and Philosophy, seminar

Ben Lambert

WS 2016/17: Geometrische Analysis, seminar
WS 2016/17: Minimax Theoreme, seminar
SS 2016: Funktionalanalysis, exercise group

Bernard Lepetit

WS 2016/17: Modern Methods in Photosynthesis Research, lecture and prac ical course

Michael Pester

WS 2016/17: Molecular microbial ecology, seminar
WS 2016/17: Methods in Biology, lecture
WS 2016/17: Mikrobiologie, course
WS 2016/17: Microbial Physiology and Ecology/Limnic Microbiology, lecture and colloquium
SS 2016: Molecular microbial ecology, seminar
WS 2015/16: Microbial Physiology and Ecology, lecture and colloquium
SS 2015: Molecular microbial ecology, seminar
WS 2015/16: Mikrobiologie, course
WS 2015/16: Methods in Biology, lecture
WS 2015/16: Molecular microbial ecology, seminar
WS 2014/15: Microbial Physiology and Ecology, lecture and colloquium
WS 2014/15: Mikrobiologie, course
WS 2014/15: Methods in Biology, lecture

Torsten Pietsch

WS 2016/17: Elekronische Transport in Nanostrukturen, lecture and practical course
SS 2016: Superconductivity, tutorial and lecture
WS 2015/16: Solid State Physics, lecture and practical course
SS 2015: Integrated Physics Course IV, tutorial
WS 2014/15: Solid State Physics, lecture and practical course

Maria Daniela Poli

WS 2016/17: Comparison of Cons itutional Courts, lecture
WS 2015/16: Comparison of Cons itutional Courts, lecture

Jennifer Randerath

WS 2016/17: Motor Rehabilitation Studies: Apraxie, seminar
SS 2016: Current Research in Neurorehabilitation, seminar
SS 2016: Einführung in die Neuropsychologie, lecture
SS 2016: Motor Kognition, research colloquium
SS 2016: Neuroplasticity, seminar
WS 2015/16: Motor Rehabilitation Studies: Limb Apraxie, seminar
WS 2015/16: Cognitive Neurorehabilitation in patients with acquired brain damage, seminar
WS 2015/16: Motor Kognition, research colloquium
WS 2015/16: Neuropsychological Assessments 2, seminar
WS 2015/16: Neuropsychological Disorders, seminar

Gianluca Rastelli

WS 2014/15: Modern Aspects of Theoretical Solid State Physics, seminar
WS 2014/15: Green functions in electronic transport, lecture in the course Quantum transport (W. Belzig)
WS 2014/15: Coulomb Blockade in single tunneling junctions, lecture in the course Quantum transport (W. Belzig)
WS 2014/15 Superconductors and superfluids: Ginzburg-Landau, Nobel Prize seminars (F. Pauly)

Tanja Rinker

WS 2016/17: Mehrsprachigkeit in der Schule, lecture series
WS 2016/17: Interdisciplinary Research Colloquium Multilinguism
WS 2015/16: Second Language Akquisition, seminar
WS 2015/16: Sociolinguistics, seminar
WS 2015/16: Interdisciplinary Research Colloquium Multilinguism
WS 2014/15: Mehrsprachigkeit in der Schule, seminar
WS 2014/15: Mehrsprachikeit/Multilinguism, lecture series
WS 2014/15: Interdisciplinary Research Colloquium Multilinguism

Antonio Rotolo

SS 2015: Archaeological colloquium
WS 2014/15: No history without space. Hands-on Geographical Information Systems (GIS) for the humanities, course

Sebastian Schutte

WS 2016/17: Perspectives on Political Violence: Top-Down vs. Bottum-Up, seminar
WS 2015/16: Introduction to Geographic Event Data Analysis in R, seminar

Denis Seletskiy

WS 2016/17: Seminar des Centrums für Angewandte Photonik, research colloquium
SS 2016: Seminar des Centrums für Angewandte Photonik, research colloquium

Minmin Shen

WS 2014/15: Introduction to image processing in biology, seminar

Elena Sturm

WS 2015/16-WS 2016/17: Nanochemistry and -analytics, course

Margaret Thomas

SS 2016: Zahlentheorie, lecture and practical course
WS 2014/15-SS 2016: Modelltheorie, seminar
WS 2014/15: O-Minimale Geometrie, lecture and practical course

Andreas Thum

WS 2016/17: Neurobiology and Developmental Biology, seminar
SS 2016: Advanced Course Behavioral Neurobiology, seminar
SS 2016: Organische Entwicklungsphysiologie, lecture and course
SS 2016: Neurobiologiy and Developmental Biology, seminar
WS 2015/16: Neurobiology and Developmental Biology, seminar
SS 2015: Neurobiology and Developmental Biology, seminar
SS 2015: Organische Entwicklungsphysiologie, lecture and course
SS 2015: Advanced Course Behavioral Neurobiology, seminar
WS 2014/15: Neurobiology and Developmental Biology, seminar

Julian Torres-Dowdall

WS 2014/15: Zoologischer Kurs

Tilman Triphan

SS 2016: Organische Entwicklungsbiologie, practical course

Nadir Weber

WS 2016/17: Republiken in der Frühen Neuzeit, course

People & Connections

Scientific Advisory Board

The Scientific Advisory Board consists of internationally renowned scholars from Germany and abroad. It is appointed by the University Executive of the University of Konstanz.

Andreas Barner

Former chairman of the board of managing directors at Boehringer Ingelheim GmbH. Memberships in the German Research Council, the Federation of German Industries, the Max-Planck-Society and the Helmholtz-Society.

Thomas Bräuninger

Professor of Political Economy at the University of Mannheim. Academic director of the Graduate School of Economic and Social Sciences, Mannheim. Member of the Academy of Sciences and Literature, Mainz.

Bernard Frischer

Professor of Informatics in the School of Informatics at Indiana University, Bloomington, USA.

Gerhart von Graevenitz †

Founder of the Zentrum für den wissenschaftlichen Nachwuchs [Centre for Young Scientists], which was forerunner of the Zukunftskolleg. Former rector of the University of Konstanz.

Henrike Hartmann

Member of the executive management of the Volkswagen foundation, Hannover. Membership in the curatorship at the Max-Planck-Institute.

Rainer Maria Kiesow

Professor for theoretical philosophy of law at Fribourg, France. Directeur d'études at École des hautes études en sciences sociales (EHESS), Paris, France.

Joybrato Mukherjee

President of the Justus-Liebig University Gießen. Vice-President of he German Academic Exchange Service (DAAD), Bonn.

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Prof. em. of Environmental Chemistry, ETH Zürich, Switzerland. President of the platform Science and Policy (SAP) of the Swiss Academy of Natural Sciences (ScNat), Bern, Switzerland. President of the board International Sustainable Campus Network (ISCN), Boston, USA.

Dorothea Wagner

Professorship for Computer Sciences at the University of Karlsruhe. Member of the German Research Council (Wissenschaftsrat), Köln. Member of he Committee for Strategic Planning Leibniz
Gemeinschaft, Berlin.

Senior Fellows

Senior Fellows are established guest scholars from the natural sciences, humanities or social sciences who join the Zukunftskolleg for a research stay and work with the Fellows. This support and inspiration is a mutual advantage, the Senior Fellows profit by the impulses provided by the younger generation and vice versa. Therefore the Zukunftskolleg inspires younger and more experienced researchers alike.

Hans Adler

Department of German
University of Wisconsin-Madison, USA
nominated by Gunhild Berg

Irene Albers

Peter Szondi-Institut für Allg. und Vergleichende Literaturwissenschaft
Freie Universität Berlin, Germany
nominated by Johanna Kißler

Jeffrey-Alan Barrett

Department of Logic and Philosophy of Science
University of California, Irvine, USA
nominated by Franz Huber

Gyorgy Buzsáki

Langone Medical Center, Neuroscience Institute
New York University, New York, USA
nominated by Nathan Weisz

Alex Byrne

Department of Linguistics and Philosophy
Massachusetts Institute of Technology, USA
nominated by Julia Langkau and Magdalena Balcerak Jackson

Yoram Carmeli

Department of Sociology and Anthropology
University of Haifa, Israel
nominated by Anna Lipphardt

Brett Clementz

Department of Psychology
University of Georgia, Athens, USA
nominated by Johanna Kißler

Cleo Condoravdi

Natural Language Theory and Technology Group
Palo Alto Research Center, CA, USA
nominated by Gerhart von Graevenitz

Marcia Esparza

Department of Criminal Justice
JJAY College, New York, USA
nominated by Nina Schneider

Christoph Fehige

Institute for Philosophy
Universität des Saarlandes, Saarbrücken, Germany
nominated by Attila Tanyi

Bernard Frischer

Department of Informatics / Frischer Consulting Inc.
Indiana University, Bloomington, USA
nominated by Karsten Lambers

Peter Gärdenfors

Department of Philosophy
LUX Lund University, Lund, Sweden
nominated by Brendan Balcerak Jackson

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Curtin University, Perth, Australia
nominated by Denis Gebauer

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University of Washington, Seat le, USA
nominated by Rudolf Bratschitsch

Dimitri Ginev

Department of Philosophy
University of Sofia, Bulgaria
nominated by Jeff Kochan

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Yale University, New Haven, USA
nominated by Gianluca Rastelli

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Department of Chemistry
University of Bielefeld, Germany
nominated by Malte Drescher

Joachim Gross

Department of Psychology and CCNi
University of Glasgow, UK
nominated by Nathan Weisz

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Department der Geistes-, Sozial- und Staatswissenschaften
ETH Zürich, Switzerland
nominated by Gerhart von Graevenitz

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Department of Computer Science
Cornell University, I haca, NY, USA
nominated by Franz Huber

Irene Heim

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MIT, Cambridge, USA
nominated by Doris Penka

Giora Hon

Department of Philosophy
University of Haifa, Israel
nominated by Samuel Schindler, Helen Gunter, and Julia Jones

Gunnar Jeschke

Dept. of Chemistry and Applied Biosciences EPR Research Group
ETH Zürich, Switzerland
nominated by Malte Drescher

Viktor V. Kabanov

Department for Complex Matter
Jozef Stefan Institute, Ljubljana, Slovenia
nominated by Jure Demsar

Paul Kiparsky

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Stanford University, USA
nominated by Chiara Gianollo

Arthur Kramer

Department Psychology
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nominated by Iris-Tatjana Kolassa

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University of Kentucky, Lexington, USA
nominated by Karim Becher

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University of Manchester, UK
nominated by Eleanor Coghill

Jennifer McDowell

Department of Neuroscience, BioImaging Research Center
University of Georgia, Athens, USA
nominated by Johanna Kißler

Randolf Menzel

Department of Neurobiology
Freie Univerität, Berlin, Germany
nominated by Andreas Thum

Gregory A. Miller

Departments of Psychology and Medical Social Sciences
Northwestern University, Evanston, USA
nominated by Johanna Kißler, Iris-Tatjana Kolassa, and Nathan Weisz

Frank Moorhouse

Freelance Author
Sydney, Australia
nominated by Gerhart von Graevenitz

Paul Mulvaney

Department of Chemistry
University of Melbourne, Australia
nominated by Klaus Boldt

Robert Philibert

Carver College of Medicine, Department of Psychiatry
University of Iowa, USA
nominated by Helen Gunter

Wilson Poon

School of Physics and Astronomy
The University of Edinburgh, UK
nominated by Thomas Voigtmann

Paul Rozin

Department of Psychology
University of Pennsylvania, USA
nominated by Gudrun Sprösser

Alexander Schellow

Freelance Artist
Berlin, Germany
nominated by David Ganz, and Zsuzsanna Török

Heike Schmoll

Department of Politics, School and Higher Education Policy, responsible for the "Bildungswelten" page
Frankfurter Allgemeine Zeitung (FAZ), Frankfurt am Main, Germany
nominated by Gerhart von Graevenitz

Valerie Shafer

The Graduate School, Speech and Hearing Sciences
The City University of New York, USA
nominated by Tanja Rinker

Brian Smith

School of Life Sciences
Arizona State University, Tempe, USA
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David Sobel

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nominated by Attila Tanyi

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Mc Master University, Ontario, Canada
nominated by Margaret Thomas

Vinod Subramaniam

Nanobiophysics Group (NBP)
University of Twente, Netherlands
nominated by Malte Drescher

Jean-Pierre Tignol

Departément de Mathématique
Université catholique de Louvain, Belgium
nominated by Karim Becher

Patrick Tresset

Department of Computing
University of London, UK
nominated by Giovanni Galizia

Sandeep Verma

Department of Chemistry
Indian Institute of Technology Kanpur, India
nominated by Jörg S. Hartig

Klaus von Heusinger

Department of Linguistics
University of Cologne, Germany
nominated by Gerhart von Graevenitz

Sabine von Heusinger

Department of Philosophy
University of Cologne, Germany
nominated by Gerhart von Graevenitz

Associated Fellows

Associated Fellows of the Zukunftskolleg are young researchers of the University of Konstanz who have been awarded within the Zukunftskolleg's funding programmes. They can also be a Ph.D. student or part of the project staff of a Fellow. Other cooperation partners of both Fellows and Senior Fellows can also be appointed as Associated Fellows.

Raul Acosta Garcia
Department of History and Sociology
Upon application, Mentorship

Mohammad Adm
Department of Mathematics and Statistics
Bridge Fellowship

Carolin Antos
Department of Philosophy
Bridge Fellowship

Federica Basaglia
Department of Philosophy
Start-Up-Grant, Mentorship

Madeleine Bieg
Department of History and Sociology
Mentorship

Hannah Burger
Department of Biology
Mentorship

Derya Ciray
Department of Mathematics and Statistics
Doctoral Fellowhip

Cindy Daase (Wittke)
Department of Politics and Public Administration
Mentorship

Arthur Fischbach
Department of Biology
Doctoral Fellowhip

Charu Goel
Department of Mathematics and Statistics
Mentorship

Ariel Gutman
Department of Linguistics
Upon application

Peter Haffke
Department of Psychology
Doctoral Fellow

Nora Hangel
Department of Philosophy
Mentorship

Jan Hausfeld
Department of Economics
Docoral Fellow

Barbara Hausmair
Department of History and Sociology
Upon application

Annette Hautli-Janisz
Department of Linguistics
Mentorship, Start-Up-Grant

Andreas Heim
Department of Biology
Doctoral Fellow

Maria Infusino
Department of Mathematics and Statistics
Mentorship

Jeff Kochan
Department of Philosophy
Upon application

Aleksandra Kosanic
Department of Biology
Bridge Fellowship

Michael Kovermann
Department of Chemistry
Upon application

Robert Kraus
Department of Biology
Mentorship

Katrin Leinweber
Department of Biology
Doctoral Fellowhip

Jan Mellert
Department of Economics
Doctoral Fellow

Michael Pokojovy
Department of Mathematics and Statistics
Mentorship

Francesca Raffini
Department of Biology
Doctoral Fellowship

Marie Revellio
Department of Literature
Manfred Ulmer Scholarship

Constantin Ruhe
Department of Politics and Public Administration
Upon application

Tinette Schnatterer
Department of Politics and Public Administration
Mentorship

Nina Schneider
Department of History and Sociology
Upon application

Aline Steinbrecher
Department of History and Sociology
Upon application

Marijn Stok
Department of Psychology
Mentorship

Antje Strauss
Department of Linguistics
Bridge Fellowship

Dima Sysoiev
Department of Chemistry
Mentorship

Attila Tanyi
Department of Philosophy
Mentorship

Jihad Titi
Department of Mathematics and Statistics
Manfred Ulmer Scholarship

Borbála Zsuzsanna Török
Department of History and Sociology
Upon application

Roland Weierstall
Department of Psychology
Upon application

Eunike Wetzel
Department of Psychology
Mentorship

Elizabeth Yohannes
Department of Biology
Mentorship

Sina Zboron
Department of Biology
Doctoral Fellow

Maria Zhukova
Department of Literature
Bridge Fellowship

Alumni (Former Fellows)

The origins of the Zukunftskolleg go back to the Centre for Junior Research Fellows (Zentrum für den wissenschaftlichen Nachwuchs – ZWN), which was already established at the University of Konstanz in 2001. Within the scope of the Excellence Initiative, the ZWN was converted into the Zukunftskolleg in November 2007. Both the Zukunftskolleg and the ZWN can look back on a remarkable success story, as the career paths of former members show.

Christof Aegerter (2006 – 2009)
Lecturer and Group Leader at the Physics Institute
University of Zürich, Switzerland

Unai Artxitia Macizo (2014 – 2016)
Researcher at the Department of Physics
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Brendan Balcerak Jackson (2014 – 2015)
Assistant Professor at the Department of Philosophy
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Michael W. Bauer (2005 – 2009)
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Steffen Bogen (2006 – 2010)
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Senior Scientist Spectroscopy
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Group Leader and Deputy Department Leader at the Institute for Synchroton Radiation (ISS)
KIT Institute of Technology, Karlsruhe, Germany

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Head of the Department of Lake Research
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Group Leader for Childhood Educa ion
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Editor-in-Chief at ALTEX – Alternatives to Animal Experimenta ion
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