Zukunftskolleg Newsletter

What changes took place at the Zukunftskolleg in the winter term 2013/14? – We received excellent applications for various calls for our funding programs; new 2-year Postdoctoral and 5-year Research Fellows arrived; Fellows left us as well and took on challenging positions in academia. Furthermore, all Fellows were successful in obtaining grants, giving lectures or publishing their latest research results. Read more on the following pages.

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Concerning the Zukunftskolleg

Executive Committee

Magdalena Balcerak Jackson and Torsten Pietsch new EC members

During the first Jour Fixe in winter term 2013/14, on October 24, the assembly of members elected Magdalena Balcerak Jackson and Torsten Pietsch as new members for the Executive Committee. They replace Ulrich Sieberer and Thomas Voigtmann, whose terms of office ended after 2.5 years. We congratulate Magdalena Balcerak Jackson and Torsten Pietsch, and thank Ulrich Sieberer and Thomas Voigtmann very much for their work in the Executive Committee.

Senior Fellow Giora Hon new EC member

In its meeting on October 31, the Executive Committee decided to nominate Senior Fellow Giora Hon to serve as member of the Executive Committee. Giora Hon, from the Department of Philosophy at the University of Haifa, was
a Senior Fellow from September 1, 2013 to February 28, 2014, and will come back to Konstanz in summer 2014. He accepted the nomination and was very grateful: “It will be an honor for me to serve on the EC as a Senior Fellow. I am grateful for the invitation to join the EC, and accept it with pleasure.”

Funding Instruments

Mentorship Programme

5 Mentorship winners

In its meeting on October 31, the Executive Committee selected the winners of the Mentorship Program (application deadline was October 15). We congratulate Christina Niermann (Sports Sciences), who will be mentored by Stef Kremers from the Department of Health Promotion, Faculty of Health, Medicine and Life Sciences, at Maastricht University; Gudrun Rath (Literature), who will be mentored by Karin Harrasser from the University of Arts in Linz; Gudrun Sproesser (Psychology), who will be mentored by Paul Rozin from the Department of Psychology at the University of Pennsylvania; Lukas Thürmer (Psychology), who will be mentored by Sean McCrea from the Department of Psychology at the University of Wyoming; Andreas Trotzke (Linguistics) who will be mentored by Jan-Wouter Zwart from the Department of Linguistics at the University of Groningen. For more information on the Mentorship Program see: http://www.zukunftskolleg.uni-konstanz.de/funding-programmes/mentorship/

Application deadline for the current Mentorship call is May 15, 2014.

Manfred Ulmer Scholarship

Winner of the Manfred Ulmer Scholarship honored at the Wissenschaftsforum

On November 22, on the occasion of the 21st Regional Wissenschaftsforum in Tuttlingen, Stefanie Neupert (Biology) was awarded this year’s Manfred Ulmer Scholarship. The Manfred Ulmer program is open to doctoral students of all disciplines at the University of Konstanz and pays 1,000 euros per month over six months. It enables scholars to bridge a financial gap between their studies and their doctoral phase. Furthermore, the winners benefit from their integration as Associate Fellows in the Zukunftskolleg. In her PhD project, “Social Communication in Ants,” Stefanie Neupert will study the rules governing nest mate recognition in ants and investigate the neuronal mechanisms that allow fast and reliable classification of friends and foes.

Recent call for 2-year ZIF and 5-year ZuKo and ZIF -Fellowships

In its most recent call for 2-year Postdoctoral and 5-year Research Fellowships (the closing date for applications was September 30, 2013), the Zukunftskolleg received more than 100 applications. In its first meeting on November 8, the Recruitment Committee chose 18 finalists for the 2-year Postdoctoral Fellowships. In its second meeting on December 13, eight candidates chosen from among these
finalists—representing a wide variety of disciplines—were offered a 2-year position. On the same day, they chose 14 finalists applying for a 5-year Research Fellowship to invite to the “Workshop on Future Research Directions” on January 23-24, 2014. In this case, six candidates could be offered a 5-year position.

**New ZIF Marie Curie 2-year Postdoctoral Fellows:**
- Unai Atxitia (Physics)
- Francesca Biagiolo (Philosophy)
- Monica Class (Literature)
- Maité Crespo Garcia (Psychology)
- Barbara Hausmair (History and Sociology)
- Wolf Hütteroth (Biology)
- Elliott Lash (Linguistics)
- Sebastian Schutte (Politics and Public Administration)

**New ZuKo 5-year Research Fellows who already started their Fellowship:**
- Brendan Balcerak Jackson (Philosophy)
- Denis Gebauer (Chemistry)
- Michael Pester (Biology)

**New ZIF Marie Curie 5-year Research Fellow who already started his Fellowship:**
- Thomas Böttcher (Chemistry)

Two further ZIF Marie Curie Fellows will start working at the Zukunftskolleg in the course of the next months.

The Zukunftskolleg offered the following Fellowships:

- **ZIF Marie Curie 2-year Postdoctoral Fellowships** (for any discipline represented at the University of Konstanz, Salary Scale 13 TV-L) for researchers in the early stage of their career to enable them to develop and carry out individual and independent research projects. This call for proposals is part of the Zukunftskolleg Incoming Fellowship Program (ZIF) and is financed by the Seventh Framework Program (FP7) Marie Curie Actions – People (co-funded by regional, national and international programs), the German Research Foundation (DFG) and the University of Konstanz. The rules and ethical principles for FP7 and the DFG guidelines apply.

- **Zukunftskolleg Research Fellowships and ZIF Marie Curie 5-year Research Fellowships** (for any discipline represented at the University of Konstanz, Salary Scale 14 TV-L) to develop and carry out individual research projects. This call for proposals is part of the Zukunftskolleg Incoming Fellowship Program (ZIF) and is financed by the Seventh Framework Program (FP7) Marie Curie Actions – People (co-funding for regional, national and international programs), the German Research Foundation (DFG) and the University of Konstanz. The rules and ethical principles for FP7 and the DFG guidelines apply.

**Co-funding**

The Executive Committee and the Director of the Zukunftskolleg approved 25 applications for start-up funding, student assistants, travel allowances and consumables between October 2013 and February 2014 for a total amount of 70,560.56 euros.
Events

**Jour Fixe**

**Tales of Interdisciplinarity**

**Jour Fixe talk by Bob Brecher on October 31, 2013**

Bob Brecher, Mentor of Julia Boll, from the Centre for Applied Philosophy, Politics & Ethics (CAPPE) at the University of Brighton's Faculty of Arts, opened the winter term 2013/2014 with a highly interesting talk on “Interdisciplinarity.”

He strongly opts for interdisciplinarity, even though he understands that many people welcome the comfort of small worlds of specialisms, “especially in an academic milieu in which we already come under threat from a whole array of forces and in which the neo-liberal revolution is daily forcing us to abandon academic values and practices in favor of whatever the so-called market dictates.” Nevertheless he thinks that it’s a mistake to stay in one’s disciplinary bunker. Why? For two basic reasons: “First, our disciplinary bunkers are far too fragile to withstand the neo-liberal hurricane. And second, because interdisciplinarity is a form of co-operation – and co-operation is perhaps the one defence we have against that hurricane, the one weapon we have with which to repel the neo-liberal revolutionaries, in the universities as elsewhere. In short, interdisciplinarity – at least as I conceive it – is a political project, as it concerns the nature and future of a community.”

In the case of Bob Brecher it is not only a political project, but also a story drawn from his career: the story of how the Humanities School at Brighton came to pioneer an interdisciplinary humanities program. The Humanities Department was originally formed out of the sections history, geography, English and religious studies (what used to be Brighton College of Education) before that institution became part of the Brighton Polytechnic. At the end of the 1970s, people who had spent their professional lives training teachers found themselves teaching degrees. And Bob Brecher's colleagues who left were not replaced, hence the Humanities Department quite rapidly shrank. At the same time, and for all sorts of reasons, applications were decreasing and it was increasingly difficult to get enough students to survive.

So, according to Bob Brecher, two things had to be done: “First, we needed to attract students. And to do that, we had to offer them something different from what they could expect at other institutions. In short, we had to give people reasons to come to study with us at Brighton Polytechnic rather than going to a university.” And that is exactly what they did. “In the first place, we opened our doors to mature students and to people who did not have conventional qualifications. In the second place, we offered students the closest thing we could to what they would get at “the best” universities: small classes, individual tutorials and close supervision.”

But what does this have to do with interdisciplinarity? Bob Brecher and his colleagues agreed to decide the content of the Humanities degree thematically and to be explicit about how then various disciplines contribute differently to such themes. So, in the first year, all students had an introductory course in the various disciplines comprising the Humanities: philosophy, history, literature, etc.
Thereafter, they had a choice of interdisciplinary themes which they would study for the next two years: Self and Society; War, Genocide and the Holocaust; the Modern World; Class, Party & State. All these two year courses were co-written and co-taught by two or three colleagues from different disciplines.

“We make use of our specific disciplines to teach students to distinguish what is relevant from what is not; to distinguish refutation from repudiation; to synthesize information, analyze problems and construct arguments. We make explicit what the various humanities disciplines have always claimed as their implicit role; and we teach them to think critically.”

Since then, these two-year options have been re-branded as independent degrees, each of which offers a choice between two, sometimes three, different two-year strands which have different disciplinary proportions and/or even different disciplinary contributions. Why? Because having in the late 1980s and early 1990s an annual intake of perhaps 60 students, they now have an intake of 170. “What began as a defensive measure is now flavor of the month, simply because (a) we have shown that it works; (b) it continues to be attractive to potential students who are looking for something different and has by now achieved something of a national reputation among schoolteachers, career advisors and so on; and (c) because the university needs as many students as possible that it is relatively cheap to teach”.

And with respect to the job market: Which employer does not want people who can think for themselves, work in teams and all the rest of it? “Focusing on students rather than on academic disciplines, educating people to be able to think clearly and relevantly, and to express themselves intelligently, is something that is good for students and politically desirable…..isn’t it?”

“Interdisciplinary work moves from the world to the university more directly than single disciplinary work might (but need not) move.”

More information about Bob Brecher: http://arts.brighton.ac.uk/staff/bob-brecher

Why is Violence Attractive?
Jour Fixe talk by Roland Weierstall on November 14, 2013

What are the reasons for escalating cruelty? Why do combatants in conflict zones find it attractive to be violent, resp. why do people in civil societies like to watch other people die (on TV or accidents)? And which different types of violence exist? – These are some of many questions that Associate Fellow and psychologist Roland Weierstall tried to answer in his Jour Fixe talk on “Attraction to cruelty as an antidote to traumatization – A psychological perspective.”

To investigate the nature of violent behavior, Roland Weierstall differentiates between field research (e.g. assessing participants that actually participated in violent behavior) vs. laboratory research (e.g. by inducing emotions related to cruelty in students). Since an interdisciplinary access to his topic is crucial, he cooperates with biologists and chemists, political scientists and sociologists, but also with philosophers and historians. Because one of his focuses is violent behavior as a consequence of war experiences, he also collaborates with universities in violence-
affected countries, e.g. Burundi or South Africa.

In an exemplary study, he collected data from high-intensity violent conflicts and determined the intensity of posttraumatic stress disorder (PTSD) in war veterans. In defining what a trauma is, he distinguishes between an objective and a subjective threat. Objective threat means: “The person experienced, witnessed, or was confronted with an event where there was the threat of or actual death or serious injury. The event may also have involved a threat to the person’s physical well-being or the physical well-being of another person.” On the other hand subjective threat is defined as: “The person responded to the event with strong feelings of fear, helplessness or horror.”

The psychologist explained different levels at which a potentially traumatic event can be processed: sensory, cognitive, emotional and physiological. They influence each other and determine the PTSD level when the different traumatic events a person has experienced start to form the so-called “fear network.” However, Roland Weierstall emphasizes that not every potentially stressful event is traumatic, which is the case when the subjective fear response does not occur, but is rather replaced by a hedonic or appetitive processing.

He furthermore clarified the term “appetitive aggression” and the human attraction to violence, which he explained in part through our biological roots and from an evolutionary perspective, but also on the basis of environmental influences, socialization processes and education.

At the end of his talk, the question was raised whether women are as aggressive as men. Although this question might be hard to answer, Roland Weierstall reported that whenever men are aggressive you ask for their motives, whereas when women are aggressive you ask which bad experiences they had. He emphasizes that much research still has to be done to understand potential gender differences, since violent behavior in women has often been neglected in aggression research.

More information about Roland Weierstall: https://www.zukunftskolleg.uni-konstanz.de/people/personendetails/weierstall-roland-1880/6338/2255/
When Words are Alive
Jour Fixe talk by Ilja Seržants on November 28, 2013

For a non-linguist, it is not that easy to explain the grammatical difference between sentences like “I saw a woman,” “I saw the woman” and “They need an assistant who knows English.” In his presentation on “Diachronic Typology of Differential Argument Marking,” Ilja Seržants made his audience understand the difference.

He first had to explain several linguistic terms, starting with the meaning of differential argument marking (DAM): “Certain nouns (more precisely NP types) sometimes tend to be marked differently than other nouns, e.g., along the animacy hierarchy.” Animacy is one of the parameters that have been observed to constrain DAM systems in various languages. Animacy in Linguistics is a parameter that may alter values representing various degrees. Humans, for instance, occupy the highest slot in the animacy hierarchy. Inanimate objects such as stones or grass are ranked very low, and animals usually occupy a space in between; languages may also distinguish between humans and animals which – although both being logically animates – may nevertheless be treated differently, e.g. a language may distinguish only between animate humans versus animals and inanimates. There would thus be no difference for these languages between inanimates and animate animals, both being opposed to humans.

Then the linguist presented examples for animacy- and (in)definiteness-driven DAM: The object of the sentence “I saw the woman” is definite and animate; “I saw a woman” is indefinite but specific and animate, whereas “They need an assistant who knows English” is indefinite, nonspecific and animate.

He furthermore pointed out that there are DAMs that apply to a whole sentence and can alter the aspectual value or the modal value of the verb, or they are triggered by negation of the verb or they are concomitant to the change of tense.

But what is typology? Typology can be defined as “the study of patterns that occur systematically across languages: typological generalization. The patterns found in typological generalization are language universals.” The main goal of linguistic typology is thus to establish generalizations that are valid across languages (no matter which type). Ilja Seržants in particular analyzes and compares Finnic, Baltic and East Slavic languages, e.g. Russian, Lithuanian, Latvian and Finnish.

But why do we need generalizations? Besides a number of obvious practical reasons, generalizations create a meta-level that allows for coherent theoretical assumptions and models which would have cross-linguistic validity. Further, they open up the way for assumptions about how languages are organized. Diachronic typology additionally involves a chronological dimension. The aim here is to establish generalizations across developmental paths of a particular grammatical category: where it comes from, how it expands (becomes productive) and how it disappears.

“The aim of my particular study is to find out how and why DAM systems arise. What are their transitional changes and demise? Are various DAM systems somehow interrelated diachronically?”, Ilja Seržants explained. His working hypothesis he would describe – in a simplified version – as follows: “DAM may be regarded in several cases as a
transitional stage in a major process whereby a specific new marking extends the old one. Given that this is a major restructuring of the alignment patterns, it is expected that we will observe gradience: certain contexts are affected earlier than others."

More information about Ilja Seržants: https://www.zukunftskolleg.uni-konstanz.de/people/personen-details/serzants-ilja-1902/6338/2415/

Rationality in Language
Jour Fixe talk by Brendan Balcerak Jackson on December 12, 2013

In his presentation on “Semantic Structure and the Structure of Rationality” Brendan Balcerak Jackson gave exciting insight into his philosophical studies of linguistic meaning. “One traditional aim of philosophers is to understand the nature of thought and rationality, in part by uncovering rules of rationality that govern good or correct reasoning,” he defined. Rules of rationality describe relations among psychological states, e.g. belief, intention, preference etc., but they also concern the relations of mental states besides beliefs. To illustrate the rules of rationality he used one simple example: When you know that your keys are either on your desk or in your coat pocket, and you determine that they are not on your desk, then you conclude that they must be in your coat pocket.

We display rationality in our use of language as well. He stated that “competence with a natural language involves a cluster of capacities to engage in linguistic reasoning – reasoning with and about expressions of the language.” For example, we can infer the meanings of new words from linguistic context, and we can employ words learned in one linguistic context in various other kinds of linguistic contexts.

Every natural language has a semantic structure, by virtue of which the language is systematic, unbounded and compositional. Systematicity means that speakers who grasp a given sentence can grasp others constructed in the same way out of the same vocabulary. Unboundedness means that there is no upper limit on how many distinct sentences speakers can grasp. And compositionality says that the meaning of a complex expression is determined by the meanings of its parts and the way it is constructed. A compositional semantic theory includes two components: a lexicon that assigns meanings to the basic expressions of the language, and a set of composition rules that specify how the meanings of complex expressions are determined, in terms of the basic meanings given in the lexicon, and on the basis of how they are constructed.

The philosopher described the relationship between semantic structure and understanding by proposing the Reflection Thesis: “The composition rules for a given language represent rules of rationality that govern the linguistic reasoning of speakers of the language.” The Reflection Thesis provides an alternative to the dominant “tacit knowledge” approach to linguistic understanding, as the dominant approach treats composition rules as part of the information at a speaker’s disposal. Speakers reason about this information in accordance with the same general (topic-neutral) rules of rationality they use in other domains. But this information is only tacitly known: available for certain reasoning tasks but not others.
Brendan Balcerak Jackson further argued: “If the reflection thesis is correct, then composition rules reflect constraints on linguistic reasoning. Speakers need not know such rules, not even tacitly. They represent correct ways of handling the knowledge speakers have about the language (e.g. from the lexicon).” He concluded his talk by saying that the reflection thesis also suggests new approaches to some of the general philosophical questions about rationality, as it implies that not all rules of rationality are formal and topic-neutral; at least some rules govern specific sorts of reasoning in circumscribed domains. Such substantive (domain-specific) rules do more than merely define what counts as “reasoning,” and these rules may be grounded in facts about how the speaker’s psychology functions in normal/ideal conditions.”

More information about Brendan Balcerak Jackson:
https://www.zukunftskolleg.uni-konstanz.de/people/personen-details/balcerak-jackson-brendan-2236/6338/2255/

Heated Debates

Jour Fixe talk by Philip Leifeld on January 9, 2014

What do pensions, Stuttgart 21 and software patents have in common? – There are policy debates about them among supporters and opponents, and Philip Leifeld develops methods to analyze them.

“Political discourse takes place when political actors, like interest groups, politicians, parties etc., make public statements about their preferred policies conditional on each other in order to affect the policy outcome,” Philip Leifeld explained. “Actors take part in a political debate to reduce their own uncertainty or to convince other actors.”

In order to analyze these discourses, Philip Leifeld wrote a software application called “Discourse Network Analyzer” (DNA), which can be used to annotate newspaper articles or other text data by encoding the opinions and statements that political actors express. Based on these extracted statements, the software can build networks of actors and political concepts and finally serve to identify clusters, or “discourse coalitions,” of actors in a debate. In these discourse networks, the similarity of the actors’ positions is determined by their agreement on, or joint rejection of, political concepts.

Since actors with official institutional positions (governmental actors) make more statements in the media than others and thus occupy more central positions in the discourse network, the software can normalize the similarities and thus eliminate this potential source of bias. The final discourse network can be visualized by imposing a threshold value on the similarities of actors.
As one example, the Postdoctoral Fellow presented his research on German pension politics ("Riester-Reform") up to the year 2001 based on articles in the Frankfurter Allgemeine Zeitung (FAZ). He manually encoded 7,249 statements from 246 organizations and/or 461 persons in 1,879 articles between 1993 and 2001. The statements of these actors were classified into 68 concepts. Using his DNA approach, Philip Leifeld could demonstrate how a dominant discourse coalition in the early 1990s was gradually replaced by a challenging coalition composed of banks, insurance companies and employers' associations with different ideological claims before the reform was adopted in 2001.

Another example of Discourse Network Analysis was Philip Leifeld's work on the European conflict on software patents (joint work with Sebastian Haunss). Software patents were proposed by the European Commission and large companies in 1997, but the initiative was rejected by the European Parliament in 2005. In the meantime, the issue was debated in the media. Philip Leifeld wanted to find out how a coalition of small- and medium-sized enterprises and social movements could prevail over a strong industry-led coalition of supporters of software patents (SWP). He measured the evolution of discourse coalitions as portrayed in five major EU newspapers between 1997 and 2005. His analysis of 33 categories / arguments / claims ("software patents are good/bad because...") distributed over 450 statements, could provide evidence that the anti-SWP coalition had a larger constituency and was structurally more congruent at all times. The same could be shown for the concept networks, which might be an explanation for the success of the SWP opponents.

With the implementation of a new statistical model for network data – relational event models for signed bipartite graphs – Philip Leifeld is planning to answer interesting questions beyond the descriptive analysis of case studies, such as: Is there reciprocity among actors when they contribute statements? Do they punish each other via statements in the discourse? Is there social balance among actors? The development of these methods is supported by a new PhD project on water policy debates under his supervision at the Swiss Federal Institute of Aquatic Science and Technology (Eawag) in Zurich.


Cultured Dogs?
Jour Fixe talk by Aline Steinbrecher on January 16, 2014

In her presentation on “Animal Culture,” Aline Steinbrecher gave insight into her research field of animal history and the central debates on “animal agency.”

“Until the 1980s thinking about history has never meant thinking about animals, but from the 1980s on it was clear (at least in Anglo-Saxon research) that animals deserve a larger place in history,” stated Aline Steinbrecher. “Since 2000 there have been many historical works on animals around the world and across most historical periods.”
A challenging key question in this field is whether animals are actors or objects in history. “The question as to what extent animals are historical actors is still seen as quite revolutionary,” explains Aline Steinbrecher. “Because introducing animals as actors and not just as objects into historical work broadens and deepens not only what we might know about the past, it also challenges some assumptions as to what the focus of history as a discipline might be. The assumption that animals have agency or interagency leads to many methodological challenges. They are connected to the epistemological question of how we know about animals in history.”

The theoretical questions in which Aline Steinbrecher is mainly interested are: Do dogs have culture in the sense of agency which affects historical processes and are dogs themselves subject to historical processes? Where could culture be found in a pre-modern pet and where do exchange processes of culture take place with these animals? To answer these questions, it is essential to look into the concrete cohabitation of man and dog in the early modern cities.

It is not surprising that the historian has chosen the dog as research field. “Dogs are humanity’s most intimate partners. They have adjusted their own evolutionary course throughout human history and influenced the evolutionary course of human history.” Furthermore, the ubiquity of dogs in the urban living environments of the past is reflected in numerous historical sources. The archaeological and historical archives, as well as art and literature are full of the “tracks” and “trails” of dogs. But all these sources, at least those the historians work with, are human-generated. Animals do not communicate visually or linguistically in ways that historians can understand or read. They do not leave behind explanations of their motives in diaries or articles in newspapers. Historians cannot gain direct access to animal subjectivities nor motivations. Nevertheless it is possible to catch a glimpse of canine agency which goes beyond the representation of them.

“One crucial factor of dog agency was the enormous quantitative presence of canines in urban environments,” says Aline Steinbrecher. The efforts of municipal authorities to prevent inhabitants from keeping domestic animals were largely ineffective: packs of dogs were a ubiquitous presence in the cities of the early 19th century. In early 19th-century Vienna, for instance, single homes often counted 30 or even 40 dogs.
In her “habilitation,” Aline Steinbrecher studies the dog-human or human-dog relationship over two hundred years, in particular from 1650 to 1850. She not only shows how narrow dogs and the bourgeoisie were interwoven, but also illustrates that the relationship between the keeper and his pet was interactive as well as reciprocal, and has been shaped by humans as well as by dogs. Dogs inscribed themselves in the behavior patterns of their owners and shaped their everyday life.

Symptomatically for this is the history of the walk. Going for a walk became one of the favorite leisure practices during the 18th century. At the same time, dog keeping became a sine qua non of bourgeois culture. “The walk is one example of many showing us that dogs have agency that affects historical processes. Further, the regulations about dog keeping illustrate that dogs themselves were subject to historical processes. This subjectivity is not only composed of the role of the dog as intimate partner, but also as source of irritation,” explained Aline Steinbrecher.

More information about Aline Steinbrecher:

https://www.zukunftskolleg.uni-konstanz.de/people/personen-details/steinbrecher-aline-2176/6338/2415/

Mathematics is Fun
Jour Fixe talk by Ben Lambert on January 30, 2014

What does he do when he doesn’t smile? That was the exciting question that moderator Panteleimon Eleftheriou and office mate Ben Lambert posed at the beginning of Ben Lambert’s presentation on “Topology, Curvature, and Flows.” The objects of study in this talk were geometric ones, such as one-dimensional curves in a plane or 2-dimensional surfaces in 3-dimensional space. These shapes are called manifolds. The mathematician wants to consider the structures inherent in these manifolds. Two shapes are considered to be topologically the same if there is a continuous deformation which takes one to another. It is allowed to stretch and bend the manifolds but not tear or glue them. “In topology, it is necessarily true that connectedness (number of pieces), boundary (edge of a topological space) as well as topological invariants (mathematical structures that can be attached but remain the same regardless of deformation) are preserved,” he explained.

One phenomenon which is important in mathematics is the Euler characteristic: “We deform our shape into one made up of polygons, e.g. the sphere. We now count up the number of vertices (points), edges (lines) and faces (sides).
Then we define the Euler characteristic by $x = V - E + F$. The Euler characteristic does not depend on how you choose the polygons. Any two spaces that are topologically equivalent have the same Euler characteristic.

In the next step, Ben Lambert introduced the idea of curvature of a curve, and then used this to describe several notions of curvature of surfaces. This included ideas of mean curvature and Gaussian curvature. He then described several classical questions in mathematics, for example: How do the topology and the curvature of a surface interact? If we impose restrictions on the curvature, what kinds of topological surfaces are allowed? How do curvatures relate to other geometric ideas such as area?

He then used this idea of a stationary point to define minimal surfaces: surfaces of least possible area. These surfaces are defined by the vanishing of the mean curvature. They occur naturally in a variety of places, such as bubbles.

And finally he explained what a curve shortening flow is by showing an animation demonstrating that by analyzing the singularity of curve shortening flow, we see that any smooth, embedded closed curve has the same topological type.

Ben Lambert summarized that topology deals with fundamental properties of shapes, “number of holes.” Curvatures are useful properties on geometric surfaces and curves which interact with the topology. Surfaces with restricted curvatures occur in nature and are useful in mathematics. Curvature flows, the objects of Ben Lambert’s research, are useful methods of deforming shapes, which give us new information on how curvature and topology interact.

More information about Ben Lambert: https://www.zukunftskolleg.uni-konstanz.de/people/personen-details/lambert-ben-2286/6338/2415/
Mutations in Fish
Jour Fixe talk by Claudius Kratochwil on February 6, 2014

When Claudius Kratochwil is asked why he does the research he does, he answers: “Because I believe that understanding nature helps me to convince more people to protect it.” In his project on the “Evolution of transcriptional regulation during diversification and speciation in cichlid fish,” he wants to find out how species are evolving and how the astonishing diversity we find in nature can be explained. His objects of interest are cichlid fish, because with about 2,000-3,000 species, they are one of the most diverse animal families.

In particular, he wants to find out how diversity in coloration of a cichlid species can be explained by changes in DNA. It can be explained by mutations, which are basically spelling errors of nature. “Mutations in the genome are like spelling errors in a text,” the biologist explained. “Some change the meaning completely, some make a minor difference, some don’t make a difference at all.” In the same manner, not all mutations result in changes of how an organism looks.

But how can you identify which ones do? Every cell has the same genes, but whether they are on or off is controlled differently. Both genes and regulatory elements mutate in the course of evolution and can change the appearance of an animal. Mutations in genes can result in different proteins that can lead to a different phenotype. But also mutations outside of genes can cause changes – for example a missing fin – if they are regulatory elements that control whether a gene is on or off in a certain tissue.

Claudius Kratochwil’s research questions go further: Can changes in gene regulation explain the extreme diversity in cichlid fish? And can we find these elements systematically? He pointed out: “Modifications in the proteins, which are bound to DNA regions, can tell you what these regions do.” By sequencing regions, which are enriched in these protein modifications, we can look through the whole genome of these animals, determine which parts are involved in the regulation of genes and if they are different or even missing in other cichlid fish.
In order to validate that particular regulatory elements are really involved, he applies two possible methods: test the activity of regulatory elements, or test the function of genes and regulatory elements by deletion.

At the end he summarized the three parts of his project: screening for regulatory elements and comparative analysis, establishing methods to test gene and regulatory element function, and understanding the role of regulatory elements during the diversification of cichlid fish.

More information about Claudius Kratochwil: https://www.zukunftskolleg.uni-konstanz.de/people/personen-details/kratochwil-claudius-2240/6338/2415/

Visit to CERN

The Mystery of the Universe
CERN visit on January 17, 2014

What does our Universe consist of? What is matter and why do particles have mass? In what state was matter after the Big Bang? These are the fundamental questions tens of thousands of physicists try to answer at CERN, the European Organization for Nuclear Research (French: Organisation Européenne pour la Recherche Nucléaire), and the largest laboratory for particle physics in the world. Established in 1954, the organization is based in the northwest suburbs of Geneva on the Franco-Swiss border and has 21 European Member States. Israel was the first non-European country to be granted full membership in December 2013.

The Zukunftskolleg had the unique opportunity to visit CERN and learn more about particle physics. Erik Bracke first gave an introduction, explaining the history of CERN and the main topics of research that are explored using the very complex infrastructure needed for high-energy physics research.

Physicists at CERN study matter using particle accelerators. They speed up particle beams and cause them to collide with one another or other targets to create high-energy conditions similar to those that existed in the first instants of the Universe. CERN is home to the world’s largest and most powerful particle accelerator: the Large Hadron Collider (LHC). It is installed 100 meters underground in a tunnel 27 kilometers in circumference. By studying collisions at higher energies than ever before, physicists working with the LHC will make further progress in understanding the mysteries of how our Universe is made and how it came to be.
Energy of a mosquito

The LHC serves to concentrate energy into a very small space. Particle energies in the LHC are measured in teraelectronvolts (TeV). One TeV is roughly the energy of a flying mosquito, but a proton is about a trillion times smaller than a mosquito. Each proton flying round the LHC ultimately has an energy of 7 TeV, meaning that when two protons collide, the collision energy is 14 TeV.

CERN’s existing Proton Synchrotron (PS)/Super Proton Synchrotron (SPS) accelerator complexes are used to pre-accelerate protons, which are then injected into the LHC. This happens when the beams reach an energy of 0.45 TeV. In the LHC ring they make millions of circuits. On each circuit, they receive an additional impulse from an electric field contained in special cavities, until they reach the final energy of 7 TeV. To control beams at such high energies, the LHC uses a system of some 1,800 superconducting magnets.

Achievements of LHC

In March 2010 the LHC successfully collided two proton particle beams travelling with 3.5 TeV of energy, resulting in a 7 TeV event. However, this was just a start on the way towards the expected discovery of the Higgs boson. When the 7 TeV experimental period ended, the LHC revved up to 8 TeV (4 TeV acceleration in both directions) in March 2012, and soon began particle collisions at that level. In early 2013 the LHC was shut down for a two-year maintenance period to strengthen the huge magnets inside the accelerator. Eventually it will attempt to create 14 TeV events. In July 2012, CERN scientists announced the discovery of a new sub-atomic particle that could be the much sought-after Higgs boson believed to be essential for the formation of the Universe.
Seven experiments (CMS, ATLAS, LHCb, MoEDAL, TOTEM, LHC-forward and ALICE) are run with the LHC, each of which studies particle collisions from a different point of view and with different technologies. The detectors record what happens when the particles collide. The energetic collisions produce many new particles, as energy turns into matter in accordance with Einstein’s equation: $E=mc^2$, where E stands for energy, m for mass and c for the speed of light.

The Zukunftskolleg Fellows were allowed to visit parts of ATLAS (A Toroidal LHC Apparatus), which is 45 meters long, 25 meters in diameter, and weighs about 7,000 tons. ATLAS was involved in the LHC experiment to discover the particle consistent with the Higgs boson in July 2012.

AMS and WWW

After lunch at the CERN restaurant, the Fellows were given an additional tour of the Alpha Magnetic Spectrometer Payload Operations Control Centre (AMS POCC). The Alpha Magnetic Spectrometer is a particle physics detector that looks for dark matter, antimatter and missing matter from a module attached to the outside of the International Space Station (ISS). It also performs precision measurements of cosmic rays. Data are received by NASA in Houston and then relayed to the AMS POCC at CERN for analysis.

Because it always has been used to handling enormous data volumes, CERN can also be considered the birthplace of the World Wide Web: Tim Berners-Lee invented it in 1989 while working at CERN. His former workstation was the first www server. Today the main site at Meyrin has a large computer center containing powerful data-processing facilities, primarily for experimental data analysis. Because of the need to make these facilities available to researchers elsewhere, it has historically been a major wide area networking hub. In numerical terms, CERN has the largest computer “grid,” comprising approximately one percent of all planetary Internet data.

The theory

After the visits to CERN, Senior Fellow Giora Hon, Dr. Arianna Borelli and Dr. Dr. Koray Karaca (both from the Interdisziplinäres Zentrum für Wissenschafts- und Technikforschung (IZWT) at the Bergische Universität Wuppertal and colleagues of Giora Hon), organized a workshop to discuss models and the physics beyond the Standard Model. The Standard Model of Particle Physics is the most comprehensive model
of particle interactions available today. With the important exception of the Higgs boson (which most probably has just been observed by the ATLAS and the CMS experiments), all of the particles predicted by the model have been observed. While the Standard Model predicts that quarks, electrons, and neutrinos should exist, it does not explain why the masses of these particles are so very different. Due to this violation of “naturalness,” most particle physicists believe it is possible that the Standard Model will break down at energies beyond the current energy frontier of about 1 TeV. If such beyond-the-Standard-Model-physics is observed, it is hoped that a new model, which is identical to the Standard Model at energies thus far probed, can be developed to describe particle physics at higher energies. Most of the currently proposed theories predict new higher-mass particles, some of which are hoped to be light enough to be observed by ATLAS.

She explained that by the 1980s, the Standard Model was fully established as the theory of elementary particles, but that physicists had already started speculating about “new” physics beyond it, i.e. about models/theories which embed the Standard Model, but also predict additional phenomena. These models were motivated theoretically by being “more symmetric, more unified and with fewer parameters.” It remains to be seen whether the future experiments at CERN will prove these hypotheses.

Launch of the Center for Multilingualism

One voice, many languages

Launch of the Center for Multilingualism on January 24, 2014

On Friday, January 24, 2014, the new Center for Multilingualism (Zentrum für Mehrsprachigkeit) was officially launched in Konstanz town hall. The event was very well-attended and high-ranking speakers were invited: Baden-Württemberg’s Minister for the Bundesrat, Europe and International Affairs Peter Friedrich, Konstanz’s Mayor for Social and Educational Affairs Andreas Osner, the Vice Rector for Study Programs of the University of Konstanz Matthias Armgardt, the founder of Bilingualism Matters in Edinburgh Antonella Sorace, Zukunftskolleg Director Giovanni Galizia, Konstanz’s Integration Commissioner Elke Cybulla, and the head of the Department for Education at the Baden-Württemberg Foundation Andreas Weber.

Koray Karaca specializes in the history and philosophy of physics, as well as theoretical cosmology. Arianna Borrelli is a historian of natural philosophy and science with a background in philosophy and research experience in theoretical high-energy physics.
They all emphasized the importance of multilingualism and interculturalism in education and society. The main problem was seen in that many people do not know enough about multilingualism, a situation which causes prejudices, for example that a second language might weaken your “school” language. In fact, multilingual children learn faster and more easily. Clearing up misconceptions of this kind is one of the aims of the Center for Multilingualism.

Bilingualism Matters was founded at the University of Edinburgh by Antonella Sorace, an internationally renowned developmental linguist.

The center was established by Janet Grijzenhout from the Department of Linguistics at the University of Konstanz; Tanja Rinker functions as its co-founder and director. The local center is the ninth branch of Bilingualism Matters, an international network that works to promote bi- and multilingualism.

The center is based at the Zukunftskolleg (room Y118), where it has an ideal home. One of its goals is to establish an interdisciplinary research platform and to facilitate research activities, funding applications, etc. in the general field of multilingualism. The members will cooperate closely with researchers from different departments. The Center for Multilingualism also will be dedicated to outreach activities and the dissemination of up-to-date scientific information on raising multilingual children, maintaining several languages in children and adults, etc. Tanja Rinker said the three pillars of multilingualism in Konstanz are: research, information and advice. The
center will offer talks, workshops and other outreach activities for schools, kindergartens, parents and people in the public sector. It is planning round tables with the city of Konstanz, events on special topics of multilingualism, lecture series, international summer schools and conferences. And perhaps – as Matthias Armgardt mentioned as well – a master’s degree program in multilingualism will soon be established at the University of Konstanz.

For more information, go to:
www.mehrsprachigkeit.uni-konstanz.de,
http://www.bilingualism-matters.org.uk/

Zukunftskolleg Lecture

The making of spin-labeled molecules and what they teach us
Zukunftskolleg Lecture by Senior Fellow Adelheid Godt on February 13, 2014

“Imagine you want to understand how a mechanical clock functions. You would probably disassemble it, look carefully at each part, and recognize its shape and its arrangement relative to the other parts.” With this comparison, Senior Fellow Adelheid Godt from the Department of Organic Chemistry at the University of Bielefeld described her field of work in the Zukunftskolleg Lecture on “The making of spin-labeled molecules and what they teach us.” While the Senior Fellow is not interested in clocks, she contributes to the development of techniques which help us to understand how molecules function. For their analysis, the structure and interaction of molecules are essential.

One appropriate method for determining their functions and dynamics is electron paramagnetic resonance (EPR) spectroscopy.

“EPR spectroscopy has developed during the past 15 years into a very powerful technique for gaining knowledge about the structure of molecules, including biomolecules, and therefore for providing information on properties such as stiffness, dynamics, interaction and function of (bio)molecules,” states Adelheid Godt. As only unpaired electrons are seen by the EPR technique, the molecules must have unpaired electrons. These are most often introduced through attachment of a moiety with an unpaired electron, the so called spin label. The spin of the unpaired electron can be viewed as a tiny bar magnet. When two macroscopic bar magnets interact, so do the spins of two electrons, an interaction that is dependent on the distance. Thus by measuring the interaction, you can determine the distance between the two spin labels and therefore gain structural information.
To illustrate a spin-spin interaction, the chemist explained the four pulse double electron electron resonance (DEER) experiment, a spectroscopic ruler and special EPR technique developed by Senior Fellow Gunnar Jeschke. Adelheid Godt contributed to this development by designing and providing molecular rulers (structurally well-defined molecules) with which the technique was evaluated. These rulers consist of a rodlike spacer and two spin labels – paramagnetic moieties – which are attached at the ends of the spacer. With a DEER experiment, you can determine not only the distance between the two sites to which the labels are attached, but also the flexibility of the spacer, i.e. the thermally activated bond angle deformation. DEER is also applied to studies of proteins. Malte Drescher, who nominated Adelheid Godt as Senior Fellow, benefits enormously from this method. He describes it as “a very well established technique for biological applications to understand biological processes.”

Together they work on the DFG priority program “New Frontiers in Sensitivity for EPR Spectroscopy: From Biological Cells to Nano Materials,” which was established in 2012 and in which 26 working groups participate. They aim to gain insight into living cells. This requires new, chemically very stable spin labels and new ways of attaching them to the peptide.

More information about Adelheid Godt: https://www.zukunftskolleg.uni-konstanz.de/people/personen-details/godt-adelheid-2196/6338/13775/

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**Speeches, Workshops and Symposia**

**Julien Bernard:**
“Mathematische Analyse des Raumproblems.” Reading group / transdisciplinary workshop to discuss Hermann Weyl’s text with researchers from mathematics, philosophy, physics and linguistics, winter semester 2013-2014
“The Vis Viva Dispute.” Invited lecture at the two-day lecture series on “Sciences and Humanities,” Aix-Marseille University, France, November 25-26, 2013


Julia Boll:
“Die neuen Kriegsstücke.” Invited talk at the Colloquium on “Phänomene und Methoden – Forschungen zu Theater und Tanz,” Institute for Theater Studies, University of Bern, Switzerland, November 4, 2013

Participation in the “Fiction Meets Science” workshop at Hanse-Wissenschaftskolleg, Delmenhorst, University of Bremen, University of Oldenburg and Hanse-Wissenschaftskolleg, January 11, 2014

Maria Cruz Berrocal:
“Early colonialism in Asia-Pacific. An archaeological example from Hoping Dao, Taiwan” and “Archaeology in Moturiki, Lomaiviti Group, Fiji Islands.” Guest lectures, Tainan National University of the Arts, October 24, 2013

“An archaeological perspective on Spanish colonialism in Taiwan.” Guest lecture, Department of Anthropology, National Taiwan University, Taiwan, November 4, 2013

“The archaeology of early colonialism in Taiwan: A case study from Hoping Dao.” Guest lecture, National Taiwan Normal University, Taipei, November 15, 2013

“Archaeology of colonialism: Ongoing research in Hoping Dao, northern Taiwan.” Guest lecture, Institute of History and Philosophy, Academia Sinica, Taipei, December 9, 2013

“Landscape and rock art studies: the Levantine paintings in Iberian Peninsula.” Guest lecture, Department of Anthropology, National Taiwan University, December 10, 2013

“San Salvador de Kelang, Heping Dao, Taiwan (1626-1642): Archaeology of Spanish early colonialism.” Symposium: “Early modern colonialism in the Asia-Pacific region,” with Tsang Chenghwa (Academia Sinica, Taipei), Susana Consuerga (CSIC, Spain), Elena Serrano (TAR), Marc Gener (CSIC, Spain), Sandra Montón (Universitat Pompeu Fabra, Spain), Society for Historical Archaeology conference, Quebec, January 2014

Joanna Chojnicka:
“Attitudes towards sexual minorities on the Latvian and Polish Internet after 2004 in relation to positions towards the EU – A discourse-analytical approach.” Paper presented at the 1st Bydgoszcz Symposium “Discursive Constructions of Europe”,

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University of Economy, Bydgoszcz, Poland, November 15-16, 2013

“Attitudes towards confessional and sexual minorities in the changing Latvian, Lithuanian and Polish discourse (post-doc project).” Paper presented at the Joint Colloquium of Zürich University and Konstanz University in Eastern European History, Zürich, Switzerland, December 6, 2013

Sarang Dalal:
“Auditory evoked potential (AEP) amplitude is coupled to the phase of sleep slow waves in humans.” Invited talk at the “Current Topics in Sleep Research and Chronobiology.” Colloquium at the University of Zürich, Switzerland, February 21, 2014

Panteleimon Eleftheriou:
“Locally definable groups as covers of definable groups.” Naples - Konstanz Model Theory Days, Caserta, Italy, November 6-8, 2013

“Semilinear versus semibounded groups.” Mathematics Colloquium, Mimar Sinan Fine Arts University, Istanbul, Turkey, November 14, 2013

“Pregometries and definable groups.” Géométrie et Théorie des Modèles, Paris, France, December 13, 2013

“Semilinear versus semibounded groups.” Mathematics Colloquium, University of Crete, Greece, December 19, 2013

“Locally definable groups as covers of definable groups.” Logic Seminar, Universidade de Lisboa, Portugal, February 13, 2014

Denis Gebauer:

Giora Hon:
Conference participation:
“Baseline’ and ‘snapshot’: Philosophical reflections on an approach to historical case studies.” The Philosophy of Historical Case Studies, Bern, Switzerland, November 2013


Colloquium talks:
“Maxwell’s contrived analogy: An early version of the methodology of modeling.” Philosophy Colloquium, Heidelberg University, Germany & Philosophy Colloquium, Tübingen University, Germany, December 2013

“A history of the concept of symmetry: A story of evolution, or is it revolution?” Forschungskolloquium zur Wissenschaftsgeschichte, Institut für Philosophie, Literatur-, Wissenschafts- und Technikgeschichte, Technische Universität, Berlin, Germany, January 2014

Laura Iapichino:
“Multiobjective PDE-constrained optimization using the reduced basis method.” Talk at the workshop on “Model Reduction of Complex Dynamical Systems 2013”, MPI Magdeburg, Germany, December 11-13, 2013

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Universität
Konstanz
“Model Order Reduction and Data.” Workshop at the Laboratoire Jacques-Louis Lions, University Pierre et Marie Curie, Paris, France, January 6-8, 2014

“Reduced basis methods for the solution of parametrized PDEs in repetitive domains.” Invited talk in Prof. Bernard Haasdonk group, IANS seminar, University of Stuttgart, Germany, January 16-17, 2014

Philip Leifeld:
“Discourse Networks and Coalitions in the Policy Process.” Presentation at the Advanced Social Network Analysis seminar series, Eawag, Zurich, Switzerland, November 1, 2013

POLNET Fall workshop on the “Analysis of Political Networks.” Two-day workshop for external and internal participants (with Volker Schneider, Achim Lang, Thomas Malang and Heike Brugger), Konstanz, Germany, November 29-30, 2013

“Political Discourse Networks: A Measurement Model for Policy Debates.” Invited talk at the Frankfurt Institute for Transformation Studies (FIT), Viadrina European University, Frankfurt (Oder), Germany, December 17, 2013

“Predictive Comparison of Longitudinal Network Models.” Paper presented (by co-author Skyler Cranmer) at the Annual Convention of the Swiss Political Science Association (SVPW), Bern, Switzerland, January 30, 2014

Gianluca Rastelli:

Tanja Rinker:

“Mehrsprachigkeit und Immersion.” Workshop for child-care workers from the bilingual day-care center “Grasshoppers”, Potsdam, Germany, November 2013

“Mehrsprachige Erziehung.” Workshop for parents, Center for Multilingualism, University of Konstanz, Germany February 2014

Paraskevi Salamaliki:
“Unit roots and trend breaks in the Greek labor market.” Paper presented at the Macroeconometric Workshop, DIW (German Institute for Economic Research), Berlin, November 29-30, 2013

“Unit roots and trend breaks in the Greek labor market.” Invited talk at the Econometrics Seminar, Department of Economics, University of Konstanz, December 2, 2013

Nina Schneider:
“Resisting Restitution? Local, national and global influences on Brazil’s Reckoning Process with the military regime (project ideas).” Invited talk at the University of Bern, Switzerland, November 7, 2013

“Do the concepts we use matter? “Transitional Justice” in Brazil (a small tribute to Edward W. Said).” Second Annual Conference of the Alliance for Historical Dia-

“‘Transitional Justice’ in Brazil? Empirical, conceptual and epistemological concerns from a historian’s perspective.” Invited talk, TAPAS Research group, University of Gent, Belgium, January 29, 2014


Ilja Seržants:
“Grammatical Relations.” Two invited lectures at the University of Latvia, December 16-17, 2013

“Pragmatics and Semantics of the Partitive Genitive in Ancient Greek.” Paper presented at the workshop “Information structure” at Hebrew University, Jerusalem, January 13, 2014

“The Independent Partitive Genitive as a Circum-Baltic isogloss.” Invited talk given at the Linguistics department at Hebrew University, Jerusalem, January 15, 2014

“The Nominative case in Lithuanian.” Talk given at the project meeting on “Argument Realization in Baltic,” University of Vilnius, Lithuania, January 23, 2014

Ulrich Sieberer:
“Institutionenwandel in Europäischen Parlamenten: Ein Werkstattbericht.” Talk at the University of Konstanz, Germany, November 13, 2013

“Kanzlerprivileg oder Koalitionssarithmetik? Politische Erklärungsversuche für Veränderungen im Zuschnitt der Bundesministerien, 1957-2013.” Talk at the University of Potsdam, Germany, January 16, 2014

“Wider den Mythos institutioneller Stabilität: Institutionenreformen in europäischen Parlamenten.” Talk at the University of Hamburg, Germany, January 17, 2014

Margarita Stolarova:
“KIND” Information Stand at the Konstanz annual “Altstadtlauf,” October 13, 2013

“KIND” poster presentation at the Annual Fall Meeting of the Early Childhood Education and Development Network, November 29, 2013

Edina Szöcsik:
Co-director of the workshop “Position, Salience and Issue Linkage: Party Strategies in Multinational Democracies.” Department of International Politics, University of Aberystwyth, UK, December 12-13, 2013

Margaret Thomas:
“Counting algebraic points on the graphs of Weierstrass zeta functions.” Invited talk, Naples-Konstanz Model Theory Days, Seconda Università degli Studi di Napoli, Italy, November 6-8, 2013


“Counting algebraic points on definable sets.” Invited talk, “Connections for Women: Model Theory and its Interactions with Number Theory and Arithmetic
Geometry." The Mathematical Sciences Research Institute, Berkeley, USA, February 10-11, 2014

**Thomas Voigtmann:**

**Nils B. Weidmann:**
Invited talks:
"The Violence We Do Not See: Reporting Bias in Conflict Event Data." Department of Political Science, Rutgers University, USA, November 13, 2013

"The Violence We Do Not See: Reporting Bias in Conflict Event Data." Order, Conflict and Violence Speaker Series, Yale University, USA, November 14, 2013

Conference and Workshop Presentations:
"The Mass Mobilization in Autocracies Database (MMAD)" (with Espen Geelmuyden Rød). Workshop on Geography and Armed Conflict, Uppsala University, Sweden, 2013 (invited)

"The Violence We Do Not See: Reporting Bias in Conflict Event Data." ENCoRe Event Data workshop, University of Konstanz, Germany, 2013

"Communication Networks and the Transnational Spread of Civil War." Workshop on Information, Technology and Conflict, Yale University, USA, 2013 (invited)

"Data Integration: How Much?". Workshop on "Strategies and Challenges for Integrating Data on Conflict and Political Violence," University of Maryland, USA, 2014

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**Contributing to an International University Debate resp. Media Presence**

Ulrich Rüdiger, Rector of the University of Konstanz, presented the Zukunftskolleg at a Symposium on human resources development in science ("Personalentwicklung im Wissenschaftsbetrieb - Tragfähige Konzepte für Hochschulen") on October 1-2, 2013 at RWTH Aachen. The title of his speech was "free • creative • connecting – das Zukunftskolleg der Universität Konstanz als Personalentwicklungsstruktur für den wissenschaftlichen Nachwuchs."

**Aline and the animals**

On the occasion of the "Kinderuni Hochrhein" on November 20, Aline Steinbrecher explained to German and Swiss school children the history of human-animal relationships. In her talk, "Schimpansonauten und Schosshunde – wie Tiere Geschichte machen," she spoke of dogs and monkeys and their significance for aerospace research, but also the necessity of farm animals. Read more about it here: [http://www.badische-zeitung.de/neues-fuer-kinder/keine-welt-ohne-tiere--77249460.html](http://www.badische-zeitung.de/neues-fuer-kinder/keine-welt-ohne-tiere--77249460.html)

**Tanja Rinker, opening of the Center for Multilingualism**

On the occasion of the launch of the new Center for Multilingualism on January 24, 2014 in the Konstanz city Rathaus, several news items and reports were published in the local newspapers. Read more about the launch under "Events."
Malte Drescher:
In recognition of his Heisenberg Fellowship (read more under “Careers”) and the development of a new method which can exactly determine protein structures, two press releases about Malte Drescher were published:
http://www.aktuelles.uni-konstanz.de/presseinformationen/2014/7/
http://www.aktuelles.uni-konstanz.de/presseinformationen/2014/4/

Latest Collaborations

How much is good?
Scientific Retreat at Villa Vigoni from October 18-21

Finding the right balance is an important issue in everyday life, as it is in academia, where you have to reconcile freedom with security, autonomy with dependence, individuality with community, as well as disciplinary focus with interdisciplinary creativity.

Interdisciplinarity was the main focus of the Zukunftskolleg’s Scientific Retreat from October 18-21 at Villa Vigoni, Lake Como. To start off the discussion of the right dose of interdisciplinarity in individual research, three Fellows reported on their positive and negative experiences with cross-disciplinary projects. Most Fellows agreed that some topics require interdisciplinary work to broaden your viewpoint and horizon, and to increase grant opportunities. With regard to publications and career options on the job market, the potential of interdisciplinary work was viewed more critically.

Working in small groups, the Fellows compiled various aspects of interdisciplinarity: the nature of interdisciplinarity, the different roles a researcher has to fill, interdisciplinarity and the variety of scientific methods, the societal aspects of interdisciplinarity. They formulated questions such as: How much background in other disciplines is necessary to enable fruitful interdisciplinary research? How can specialist knowledge be communicated to colleagues from other disciplines and to non-specialists in general? Do truly interdisciplinary methods exist? How significant are the differences between research methods, and between the ways work is presented in specific academic disciplines? And most importantly, does interdisciplinarity benefit society?
The Zukunftskolleg is based and thrives on an interdisciplinary community, but what is it that makes the institution unique? What is its USP? Unique selling points include the early independence of up-and-coming researchers, their self-government, the institution's openness to many different research topics and risky projects, as well as its model role for the future academic system.

One visible sign of the success and international attractiveness of the Zukunftskolleg is the numerous that started working here this year. The Scientific Retreat therefore focused not only on research, but also on the more social side of things: New members got to know each other better spending time hiking, sightseeing, taking a guided villa tour and attending a wine-tasting.

People

Fellows

Fellowships ending in winter term 2013/14: Karim Becher

Senior Fellows and Mentors

Irene Heim, Head of the Department of Linguistics and Philosophy at the Massachusetts Institute of Technology in Cambridge, USA, Senior Fellow from November to December 2013, nominated by Doris Penka

Giora Hon, Department of Philosophy at the University of Haifa, Israel, Senior Fellow from September 2013 to February 2014, nominated by Helen Gunter and Julia Jones

Bob Brecher, Centre for Applied Philosophy, Politics & Ethics (CAPPE) at the University of Brighton’s Faculty of Arts, UK, Mentor in October 2013, nominated by Julia Boll

New Associated Fellows

- Anette Brockmann (Biology)
- Christina Niermann (History and Sociology)
- Gudrun Sprösser (Psychology)
- J. Lukas Thürmer (Psychology)
- Lisa Töbel (Psychology)
- Andreas Trotzke (Liguistics)
- Michael Weiß (Biology)
Publications

Julia Boll:


Peer-Reviewed Article:

“Last Girl Standing: on Zinnie Harris’s War Plays,” in: International Journal of Scottish Theatre and Screen 6.1, November 2013, Web:

Joanna Chojnicka:


“Jak zwracają się do siebie Łotysze,” in: Marcjanik, M. (ed.): Jak zwracają się do siebie Europejczycy, Warsaw: Warsaw University (popular-scientific volume in Polish about forms of address and politeness in European countries)

María Cruz Berrocal:

“Archaeologies of Early Modern Spanish Colonialism,” (with Montón, S.; Ruiz, C.) (eds.), accepted for publication in Springer

Malte Drescher:


“A Genetically Encoded Spin Label for Electron Paramagnetic Resonance Distance Measurements,” (with Schmidt,
Moritz; Borbas, Julia; Summerer, Daniel) in: Journal of the American Chemical Society (2014), in press

Panteleimon Eleftheriou
“Coverings by open cells,” with M. Edmundo and L. Prelli, in: Archive for Mathematical Logic, published online January 29, 2014:
http://link.springer.com/article/10.1007/s00153-014-0367-x

Denis Gebauer:
http://dx.doi.org/10.1002/nadc.201390356


http://dx.doi.org/10.1002/adma.201303643

Helen Gunter:
“Analysis of central Hox protein types across bilaterian clades: On the diversification of central Hox proteins from an Antennapedia/Hox7-like protein,” (with Hueber SD, Rauch J, Djordjevic MA, Weiller GF, Frickey T); in: Dev. Biol. 2014, 383, p. 175-185, published September 18, 2013:
http://dx.doi.org/10.1016/j.ydbio.2013.09.009,


Roxana Halbleib:
“Estimating GARCH-type Models with Symmetric Stable Innovations: Indirect Inference versus Maximum Likelihood,” (with Giorgio Calzolari and Alessandro Parrini), in: Computational Statistics and Data Analysis, forthcoming:

Giora Hon:
Edited books:
“Error and Uncertainty in Scientific Practice,” (with Marcel Boumans, and Arthur Petersen (eds.)), London: Pickering & Chatto, published in December 2013:

Articles in Refereed Journals:

Laura Iapichino:

Philip Leifeld:

Beatriz Puente-Ballesteros:
白雅诗: 《康熙宫廷耶稣会士医学：皇帝的网络与赞助》,《清史研究, Studies in Qing History》2014第1期, translated by董建中 Dong Jianzhong, Associate Professor, The Institute of Qing History, Renmin University; revised Chinese translation of the following article by Beatriz Puente Ballesteros: “Jesuit Medicine at the Kangxi Court (r. 1662-1722): Imperial Networks and Patronage,” East Asian Science, Technology, and Medicine Journal, 34 (2011): 86-162. Special Issue: “Networks and Circulation of Knowledge: Encounters between Jesuits, Manchus and Chinese in Late Imperial China,” (Guest editor: Prof. Nicolas Standaert, Chair of Sinology, Faculty of Letters and Arts, Catholic University of Leuven, Belgium)


Tanja Rinker:


Nina Schneider:
Peer-reviewed journal articles & book chapters:


Mihaela Mihai, Palgrave Macmillan, forthcoming in February 2014

Non-peer-reviewed book chapter:

Ilija Seržants:
Books:
“The Diachronic Typology of Non-canonical Subjects,” (with L. Kulikov as the second co-editor), Studies in Language Companion Series 140, Amsterdam/Philadelphia: John Benjamins, November 2013


Papers:


Reviews:

Ulrich Sieberer:

Margarita Stolarova:
A new open-access stimulus set for investigation of need-of-help recognition abilities developed at the Zukunftskolleg of the University of Konstanz has been published by Margarita Stolarova and Aenne Brielmann in “PLOS ONE”. Helping is an important aspect of human prosocial behavior which has received increasing attention in recent years. However, need-of-help recognition, one socio-perceptual process preceding helping behavior, has not been investigated before. Possible reasons for this lack of attention to an important precondition of helping are difficulties in operationalization and a lack of appropriate, standardized stimulus material. Aenne Brielmann and Margarita Stolarova have therefore developed and tested a new set of visual stimuli for investigating need-of-help recognition. The research was funded by the
Zukunftskolleg. The stimulus set has now been published in PLOS ONE, researchers are invited to use and expand the open-access NeoHelp Stimulus Set. The results of the first empirical data obtained with the NeoHelp have been published in Frontiers in Psychology: Developmental Psychology.

Margarita Stolarova and Aenne Brielmann from the Department of Psychology and the Zukunftskolleg at the University of Konstanz were able to demonstrate that the black-and-white comic drawings comprising the NeoHelp Stimulus Set are well suited for research with children of different ages: They are unambiguously identifiable in terms of content and category. The stimuli are also characterized by high perceptual similarity across content categories. These qualities make them well usable for psychophysiological and neuroimaging studies, as well as for behavioral studies. The first empirical investigation with 53 children from 5 to 13 years showed that the developmental trajectory of children’s ability to recognize another person’s need-of-help differs for girls and boys. We observed higher accuracy rates for younger girls compared to younger boys specifically in the need-of-help recognition tasks. For boys, an age-related performance improvement was found. Younger girls performed at a similarly high level as older girls and boys. No gender differences were observed for children aged over nine.

The two open-access publications are accessible here:
http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0084373


Andreas Thum:


Thomas Voigtmann:
Nils B. Weidmann:


Grants, Approvals and Prizes

NPSA Women’s Caucus Best Paper Award for Mentorship Winners
Jale Tosun (University of Mannheim and University of Heidelberg) and Mary Stegmaier (University of Missouri, Columbia) – who won a Zukunftskolleg Mentorship in 2010 – are the winners of the 2012 “Women’s Caucus Award for Best Paper on Women and Politics”. The award from the Northeastern Political Science Association (NPSA) includes a 75 dollar monetary prize and a certificate. The article is entitled “Women’s Parliamentary Representation in the Czech Republic: Does Preference Voting Matter?”. In the introduction, both acknowledged the project funding from the Zukunftskolleg which made the publication possible. The online version of the article can be found at: http://eep.sagepub.com/content/early/2013/07/22/0888325413494771

Moreover Jale Tosun recently was offered a Junior Professorship in the Institute for Political Sciences at the University of Heidelberg.

Daniele Brida:
Daniele Brida was successful in applying for a FET-Open Xtrack grant, funded by the EU. The granted GEMINI (GERmanium Mld-infrared plasmoNics for sensing)-project aims at laying the foundations for a novel paradigm in surface-enhanced infrared sensing by exploiting plasmonic effects in heavily-doped germanium on silicon. It involves four research groups, one lead by Daniele Brida. The whole project receives funding for a total amount of more than 1.7 million euros, 300,000 euros of which will be allocated to Daniele Brida’s group. FET-Open (Future and Emerging Technologies Open Scheme) is a research funding scheme of the EU specifically designed to be open and continuously responsive to novel and fragile ideas that challenge current thinking, whenever they arise and wherever they come from.

Daniele Brida & Andreas Thum:
Daniele Brida and Andreas Thum have been accepted into the Baden-Württemberg Foundation’s elite program for postdoctoral students. For the projects they submitted, they will each receive funding of between 85,000 euros and 95,000 euros over the next two years. They were awarded the approved funding to conduct an independent research project. The two postdoctoral fellows will be able to cover personnel and equipment costs thanks to the funding.
Denis Gebauer:
Grant by the DFG/NSF international research consortium for his project "Materials World Network (MWN) for Particle-mediated Control Over Crystallization: From the Pre-nucleation Stage to the Final Crystal," project duration 36 months, project start December 2013, 212,000 euros granted to Co-PI Denis Gebauer.

Grant by the Baden-Württemberg Foundation for his project "Bioinspired Materials Synthesis: Advanced Nanohybrids of Calcium Carbonate and Cellulose (ANOCCC)," project duration 36 months, 198,100 euros (funding applied for; project approved, but granted funding has not been disclosed yet).

Philip Leifeld:
SNF Grant (315,600 CHF) for the project "Overlapping Subsystems: Identification and Integration of Fragmented Games in Swiss Water Politics," grant number: 100010_149410, role: Co-PI (submitted with Karin Ingold, PI, and Manuel Fischer, Co-PI), start: April 1, 2014

Nina Schneider:

Careers

Maria Cruz Berrocal:
Selected member of FWO Expert Panel Cult3: History, History of Arts and Archaeology, January 1, 2014-2016, FWO, Belgium

Malte Drescher received a Heisenberg Stipend from the German Research Foundation (DFG) for his research group on "electron spin resonance" in the Department of Chemistry at the University of Konstanz. Only researchers who fulfil all the requirements for tenured professorships may apply for the Heisenberg Program. The stipend is funded for 36 months and will start in February 2014. Read more in the following press release (in German): http://www.aktuelles.uni-konstanz.de/presseinformationen/2014/7/

Andrea Lailach-Hennrich was successful in applying for a research grant within the "Ontario-Baden-Württemberg Faculty Mobility Program" of the Ministry of Science, Research and the Arts Baden-Württemberg. From September 2014 until February 2015, she will work in the Kant Research Group at the University of Western Ontario, Canada, on her project "The Synthetic A Priori."

Philip Leifeld will work as Research Fellow on the SNF-funded project "CrossWater: Transboundary Micro-pollution Regulation in Europe" at the Swiss Federal Institute of Aquatic Research and Technology between April 1 and September 30, 2014.
Daniel Plaumann has been offered a research fellowship at the Nanyang Technological University Singapore from January 1 until May 31, 2014.

Ulrich Sieberer was a Visiting Professor at the Department of Government at the University of Vienna in winter term 2013/14.

Margarita Stolarova has a Substitute Professorship in Early Childhood Development and Education at the Rhine-Waal University of Applied Sciences, Kleve, from October 1, 2013 to August 31, 2014.

Margaret Thomas spent a Postdoctoral Fellowship at the Mathematical Sciences Research Institute (MSRI) in Berkeley, California, USA, from January to May 2014. She was invited to the research semester on “Model Theory, Arithmetic Geometry and Number Theory”.

Thomas Voigtmann has been offered a W2-Professorship in “Theory of Soft Matter” in the Department of Physics at the University of Düsseldorf.