Universität Konstanz

Zukunftskolleg

Zukunftskolleg Annual Report 2020 | 2021

Giovanni Galizia
Director of the Zukunftskolleg

Dear readers,

Last year again, the Zukunftskolleg was enriched in many ways: by great people, wonderful encounters and promising projects. This needs to be highlighted all the more because research trips and planned projects were difficult for a long time.

In the 2021 summer semester, we were able to welcome new Postdoctoral and Research Fellows (more about this in the Fellow Reports), new Senior Fellows (see pages 96-99), and the ZUKOnnect Fellows from the 2020 call were finally able to come to Konstanz (see page 101). In addition, we had guests from Israel (Senior Fellowship), the Netherlands (Constructive Advanced Thinking), Romania (Research Visit) and Lebanon (Intersectoral Project) in the framework of our funding programmes.

One of these funding programmes, the Independent Research Grant, helped Katharina Zahner-Ritter to adopt a completely new approach in her research – necessary as a consequence of the coronavirus restrictions. Read more about this in the interview on pages 4-7. In addition, our ZUKOnnect Fellowship Programme received the Henriette Herz Award of the Alexander von Humboldt Foundation (pages 72-73).

Topical again in the interdisciplinary debate was "(anti-)racism": As a reaction to the Black Lives Matter movement and in line with the statements of solidarity from academic institutions worldwide and the university's own solidarity statements, the fellows of the Zukunftskolleg organized an event series entitled "Racism in Academia" in the 2020/21 winter semester and the 2021 summer semester and issued an institutional statement of solidarity. Read more about this on pages 80-81.

The fellows had lunch together or met for coffee and joined – virtually or in person – for the weekly Jour fixe to discuss the latest results from their research, forthcoming research proposals or the challenges of switching to online teaching and supervision in times of the pandemic. They discussed, for example, the topic "Sustainability" extensively and their points of view partially varied very much – depending on the respective discipline and on personal attitudes. We have collected these views in this report too (in the Fellow Reports).

With regard to the Fellow Reports, you will notice that some of the Visual Abstracts are the same as in last year's Annual Report. We could have updated them, creating apparent change where instead we wanted to convey continuity, in-depth analysis and a propensity for long-term research.

We look back on a successful, exciting and eventful year, even though it was not an easy one, since the coronavirus has created new challenges or made things impossible that were normal beforehand. The target group of the Zukunftskolleg, young and aspiring researchers of all disciplines, is particularly vulnerable. They find themselves in a phase of their lives when they are expected to perform an incredible balancing act: simultaneously establish a research group, create their own identity in the scientific community and publish their work in an environment of strong competition – and for many of them this coincides with starting a family. The additional burden through the coronavirus – in particular for those fellows with young children – was an enormous challenge. Hats off to our fellows for achieving so much despite the circumstances!

In order to provide our fellows with the best support in this special situation, this year we have once again offered and funded extensions to fellowships, have tested and made available new formats for hybrid communication and have been particularly flexible with research funds.

And there is even more: With our newly established "Bridging Fund" – sponsored by the Universitätsgesellschaft e. V. – since this year we have been able to support new fellows on their arrival in Konstanz who are at a disadvantage due to international bureaucracy or simply because of the high financial burden that a move to Konstanz entails in the short term (for example, the need to pay deposits). An important new element of the welcoming culture at the University of Konstanz!

I now invite you to read the Zukunftskolleg's latest Annual Report and hope you enjoy it!

Yours sincerely,
Giovanni Galizia

Bringing the Baby Speech Lab to families' living rooms: Remote testing of children's ability to recognize words

Interview with Independent Research Grant (IRG) winner Katharina Zahner-Ritter (Department of Linguistics)

In 2019, Katharina Zahner-Ritter applied for an Independent Research Grant of the Zukunftskolleg with her project "Getting the question: How German infants acquire intonational contrasts" – which was granted. Due to the outbreak of COVID-19 at the beginning of 2020, the experiments could not run as initially planned, since the Baby Speech Lab (www.ling.uni-konstanz.de/bsl/) was closed down and testing temporarily put on hold. We talked to Katharina about her original plans and what the pandemic finally made out of them.

WHAT WAS THE ORIGINAL AIM OF YOUR PROJECT WITH WHICH YOU APPLIED FOR THE IRG?

The initial aim of the project was to investigate how German infants and toddlers between 6 and 24 months of age recognize intonational contrasts between statements and questions. Statements are typically spoken with a falling intonation, i.e. we lower the tone of our voice at the end (e.g. The Zuko offers research grants! ↓). Yes/No questions (e.g. The Zuko offers research grants? ↑), on the other hand, are most often spoken with rising intonation, which means that we finish the sentence on a higher note. Perceiving and interpreting such differences in intonation are important milestones in children's communicative development and form the building blocks for becoming competent language users. In infancy research, looking time paradigms are usually used to test children's abilities to perceive and interpret differences between stimuli, such as rising and falling intonation contours. These paradigms are based on the fact that young children look longer at the types of stimuli that are more interesting to them. More specifically, a classic paradigm that is used for testing infants' discrimination abilities in the first year of life involves two phases: (1) a habituation phase and (2) a test phase. In (1) the habituation phase, infants are familiarized with one type of stimulus (e.g. rising intonation contours only), and after continuously listening to this very same type of stimulus they finally – and intendedly – lose interest in it (a moment in time called "habituation"). This loss of interest becomes visible in infants' looking behaviour, which suddenly drops. The child is habituated. Researchers make use of this moment of habituation and switch the stimulus which, in turn, marks the beginning of the test phase. In (2) the test phase, a different stimulus is played to the infant, for instance falling intonation contours. If infants perceive the switch in stimulus, and in this case the difference between rising and falling contours, their look will recover during this phase (this is called "dishabituation") as they regain interest in the new type of stimulus. If there is no increase in looking time at the point when the stimulus is switched, we would assume that children do not perceive a difference. Hence, infants' looking behaviour allows researchers to draw conclusions about the perception and processing of language before children even start to produce their first words.

For the IRG project, two perception experiments were planned, one investigating the ability to discriminate rising vs. falling intonation and one investigating the functional use of question and statement intonation. The intention was to test children in the Baby Speech Lab at the University of Konstanz (https://www.ling.uni-konstanz.de/bsl/), using two different looking paradigms.

HOW DID THE PANDEMIC CHANGE YOUR PLANS?

Because the lab was temporarily closed down and testing put on hold, an alternative solution had to be found. In agreement with the Zukunftskolleg, I adapted the original workplan such that the realization of an adjusted project was feasible. The major change (and also challenge) was to move from testing in the lab with established experimental paradigms and equipment to remote testing in infants' home environments. The idea of remote testing via an app was developed and refined together with Professor Bettina Braun and the Baby Speech Lab team.

In developing an app for remote testing, I collaborated with an IT developer, Dr Claus Zinn (https://www.zinnwerk.com), who programmed what we call our "Babylab app". The app is freely available in the App Store (https://apps.apple.com/de/app/bslwortformerkennung/id1508534681) and can be downloaded by parents so that they can participate in the experiments with their children from home. Nathalie Czeke, the research assistant in my IRG project, who was supposed to recruit infants and test them in the lab, was now involved in developing online language questionnaires to be used in the app and in generating an introductory video for parents. In this video, parents are informed about the experiment's general procedure, data protection guidelines and important technical instructions, e.g. how to best position the iPad etc. (see https://www.ling.uni-konstanz.de/bsl/angebote-fuer-zu-hause/babylab-app/ for the video). Since the experiment was not supervised by one of the researchers, the instructions had to be detailed, but at the same time clear and not too overwhelming.

Moving to remote testing required an additional adjustment: a change in the experimental paradigm. This change was necessary because looking times, unlike in a lab setup, could not be coded "online/live" (i.e., whether a child looks to the screen or not). Instead, they had to be coded after the experiment, i.e. "offline" from videos collected via the app. This technical constraint ruled out paradigms that proceed in two phases, i.e. paradigms like described above in which stimulus presentation in the test phase is contingent on the child's looking behaviour in a preceding habituation phase. Consequently, the paradigm originally planned for the IRG project could not be implemented within the app. To get started, we used a one-phase "preference paradigm" instead. Specifically, we chose an established paradigm which is used to test whether children around the age of one year recognize familiar words, e.g. cat, chair, etc. Earlier studies have shown that children from around 11 months of age look longer at word lists that contain highly familiar real words (e.g. Hase

‘rabbit’, Katze ‘cat’, Stuhl ‘chair’, etc.) than at word lists containing made-up words (e.g. Kafe, Lamme, Guhm, etc.), hence suggesting that they recognize the familiar word forms. Since this effect is robust in the literature (cf. Carbajal et al. 2021), it seemed to be a perfect test case for replication with remote testing via an app.

The app was programmed for iPad, and children are presented with lists of real and made-up words while watching a coloured checkerboard on the screen. To familiarize children with the setting, the experiment starts with the presentation of a colourful picture (depicting animals, people, etc.) which parents describe to their children. Videos are collected via the app, encrypted and securely transferred to a university server for further analyzes.

DID YOU ACHIEVE YOUR AIMS?

Yes. Even though bringing the Baby Speech Lab to families’ living rooms seemed to be a challenging endeavour at first, everything worked out well in the end. The development of the app in collaboration with Claus Zinn went smoothly and quickly (taking no more than 2.5 months). The app has been available in the App Store since June 2020 (https://apps.apple.com/de/app/bslwortformerkennung/id1508534681), and more than 100 families have participated with their children already. Looking back at the data collection process, it needs to be said that remote testing is indeed more challenging since there is less experimental control and more distraction for the child. However, precise parental instruction proved to be successful.

TO WHAT EXTENT DID YOUR PROJECT SUCCEED IN FOSTERING SCIENTIFIC INDEPENDENCE?

The project fostered my scientific independence in that it allowed me to gain experience in the coordination of research activities with external partners – in my case an app developer. I also gained experience in leading a project team consisting of myself, the Baby Speech Lab manager and a research assistant. Most importantly, the project taught me how to remain flexible and innovative with respect to developments that we cannot control. It also increased the visibility of my own research. For instance, I was invited to present my work with the app at a colloquium at the Baby Speech Lab in Potsdam in July 2021. This was a great honour since the Babylab in Potsdam, led by Professor Barbara Höhle, is one of the leading labs in infancy research worldwide.

WERE THERE ANY CONCRETE RESULTS (E.G. PUBLICATIONS, CONGRESSES ATTENDED, EVENTS, NEW RESEARCH PROJECTS, SUBMISSION OF A PROPOSAL FOR THIRD-PARTY FUNDING, THIRD-PARTY FUNDING OBTAINED, RESEARCH PARTNERSHIPS)?

The app has been promoted and presented in various formats: Firstly, the Babylab app was integrated and promoted on “Kinder-schaffen-Wissen” (https://kinderschaffenwissen.eva.mpg.de/studie/erkennst-du-die-woerter/), an online collaborative platform that coordinates and bundles remote studies in infancy research. This initiative has come into being as a response to COVID-19, when labs had to be closed down temporarily.

I also presented the app together with Dr Claus Zinn, its developer, at the Digitaltag in June 2021 (https://digitaltag.eu/spracherwerbsforschung-vom-sofa-aus-ganz-einfach-mit-der-baby-app). This was a great success with more than 30 virtual participants, which certainly increased the visibility of the app and my research in general.

I also gave a talk on the Babylab app at the Babylab Colloquium of the University of Potsdam (https://www.uni-potsdam.de/de/babylab/index) in July 2021.

In collaboration with Bettina Braun and her team, first results from the Babylab app have been submitted for publication (Braun et al. submitted). It appears that our findings with the app replicate earlier findings, i.e. that German children recognize familiar words from the beginning of the first year of life. Most importantly, the project shows that remote testing clearly is an option in infancy research. Furthermore, the videos collected in the app provided us with insights into the input children receive, including dialectal variability. We find that children growing up in Switzerland and more rural areas of the Alemannic dialect area in Germany receive more dialectal input than children growing up in the city of Konstanz, where the input contains many standard forms (see Zahner-Ritter et al. 2021).

ARE THERE ANY OTHER SERVICES THE ZUKUNFTSKOLLEG OR THE UNIVERSITY COULD HAVE PROVIDED WHICH WOULD HAVE SUPPORTED YOU IN IMPLEMENTING THE PROJECT?

The flexibility of the Zukunftskolleg in allowing me to adapt my workplan was great! In addition to allowing me to spend parts of the research grant on developing the app, the Zukunftskolleg provided me with an iPad that I could lend to families who wanted to participate in the app study but did not possess an iPad themselves. This was more than kind and helped me a lot in realizing the IRG project!

THANK YOU!

References:

Carbajal, M. J., Peperkamp, S., & Tsuji, S. (2021). A meta-analysis of infants’ word-form recognition. Infancy, 1–19. doi:10.1111/infa.12391.

Braun, B., Czeke, N., Rimpler, J., Zinn, C., Probst, J., & Zahner-Ritter, K. (submitted). Remote testing of the familiar word effect with non-dialectal and dialectal German-learning 1-2-year-olds. Manuscript under review at Frontiers in Psychology (Research Topic on Empirical Research at a Distance: New Methods for Developmental Science).

Zahner-Ritter, K. (2021). Replicating the familiar word effect using an app and automatic coding of fixations. Invited talk at the University of Potsdam (07/2021).

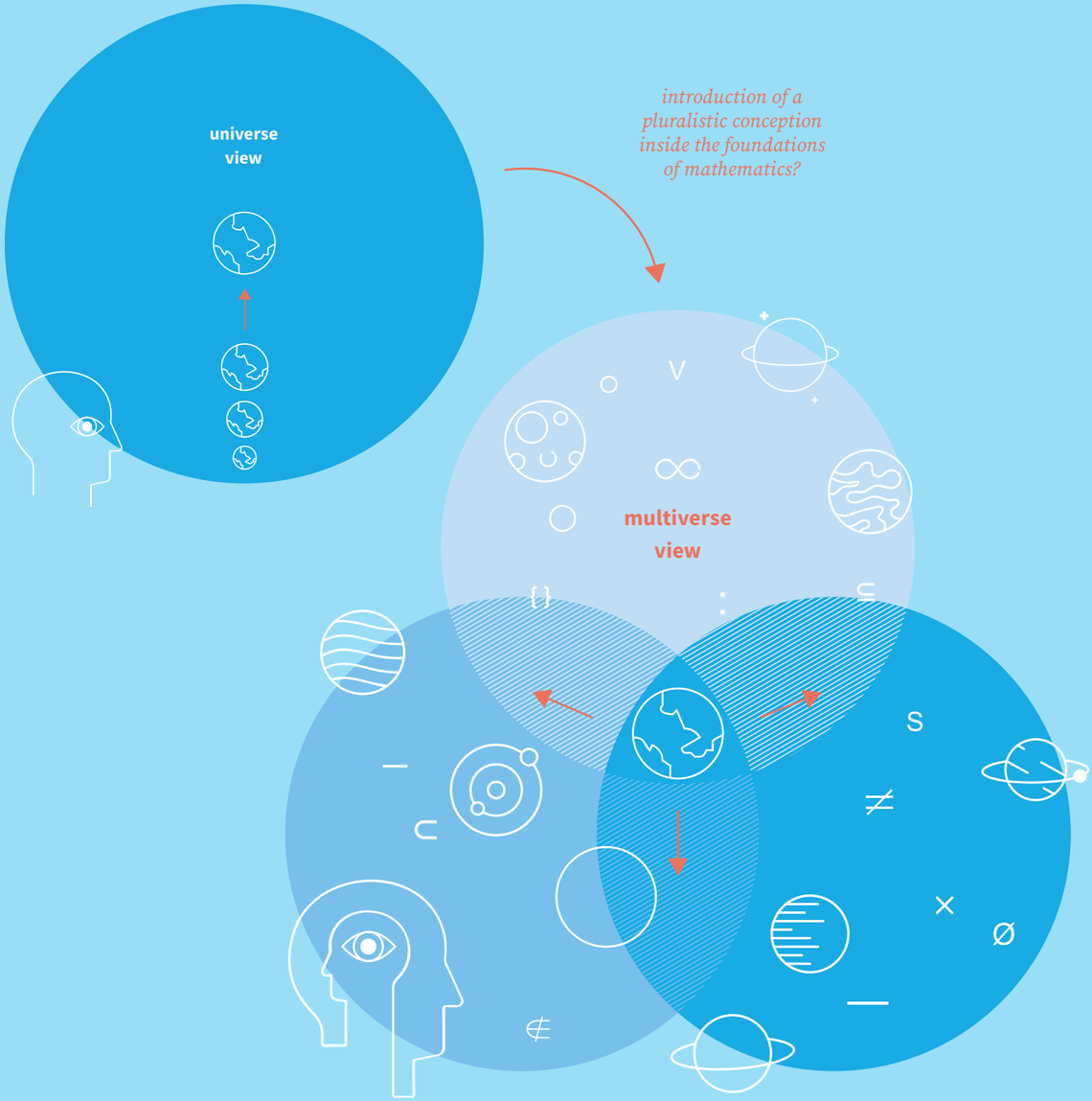
Zahner-Ritter, K., Jakob, M., Lindauer, M., & Braun, B. (2021). Phonological variability child-directed-speech is not affected by recording setting: Preliminary results on Southern German and Swiss German. Talk at the virtual conference Phonetics and Phonology in Europe (PaPE 2021), Barcelona (06/2021).

Zahner-Ritter, K. & Zinn, C. (2021). Spracherwerbsforschung vom Sofa aus? – Ganz einfach… mit der Baby-App! – Vortrag beim Digitaltag 2021 (https://digitaltag.eu, 06/2021).

Fellow Reports

Each fellow report consists of three parts: On the left-hand page a Visual Abstract about the fellow's research project, and on the right-hand page their success story from the 2020/2021 academic year, as well as the fellow's opinion on sustainablility.

Conceptual change in the foundations of mathematics



In mathematics, the truth of a statement seems to be clearly decidable: Every statement that can be proven is true; every statement that can be disproven is false.
However, this is not correct. There is a large class of mathematical statements that are undecidable, i.e. they cannot be shown to be true or false via means of proving or disproving them. These statements are studied in set theory and, over the last 50 years, different kinds of mathematics have been developed in which different kinds of undecidable statements hold or fail.
In a philosophical reflection on this mathematical development, we study how much of a conceptual change this signifies and whether the development introduces a pluralistic conception of the foundations of mathematics.

Carolin Antos-Kuby

Research Fellow since 05/2018
Department of Philosophy

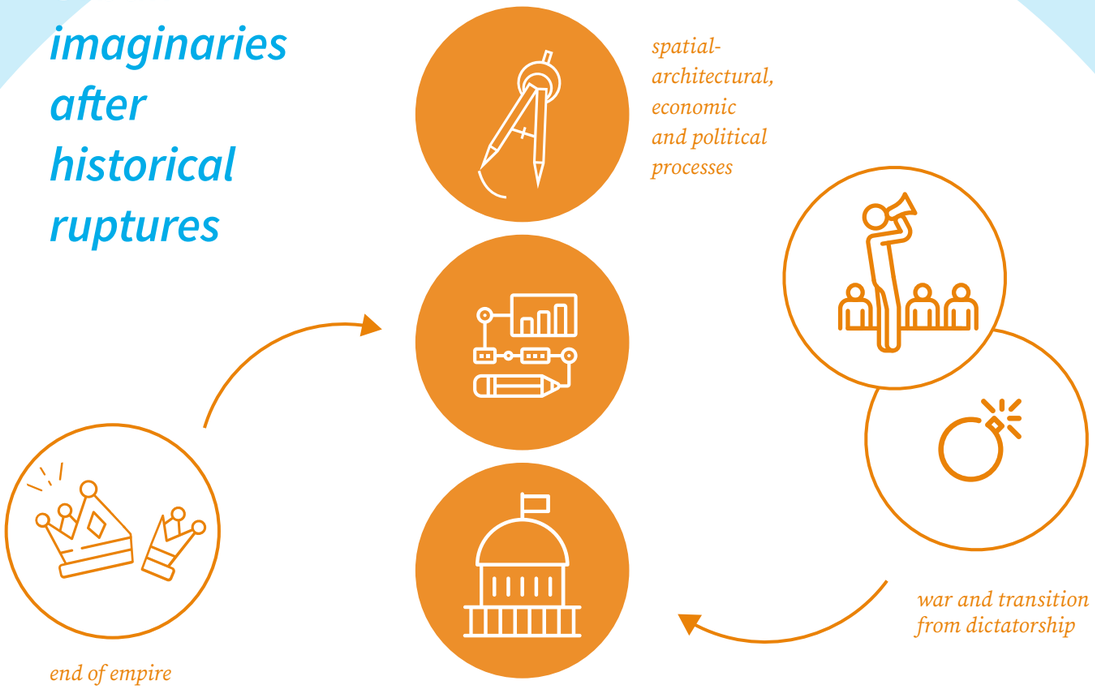
Universe or multiverse?

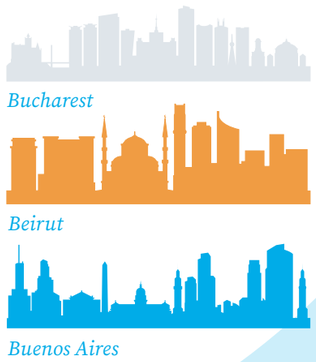
In a standard approach, set theory is considered to provide a foundation for mathematics. This means that theoretically all of mathematics can be formulated in the language of set theory and carried out as operations on sets. But what are the foundations of set theory?
We study set theory in mathematical models, the models of set theory. One view, often called the universe view, states that there is one “correct” model of set theory that comes as close as possible to what set theory is really like. In the last decades, an alternative view has developed, known as the multiverse view. This view holds that set theory cannot be captured by one model alone, but that there are many independent models which are all correct representations of what set theory is.
In my present work, I focus on the question of how and when concepts change. In the natural sciences, this often happens when concepts turn out to be defective, e.g. by leading to inconsistencies. I transfer this approach to formal concepts, such as mathematical and logical ones, and investigate in which ways such defectiveness leads to the change of concepts.

SUSTAINABILITY STATEMENT →

As my work on the foundation of mathematics is highly theoretical and abstract, it is not connected to any issues concerning sustainability in a scientific way. However, there might be changes in the way we organize meetings, etc. One good thing the COVID-19 pandemic has brought was exploring the possibilities of moving scientific events online. For conferences, this does not seem particularly desirable because it is very hard or even impossible to move the social interaction that usually happens at conferences to a virtual setting. But smaller events such as seminars profited enormously from being moved online. We are a quite small community that is distributed over several continents, and for seminars that take place in person only very few researchers can be present. But in virtual seminars we have seen a considerable increase in participation resulting in much more lively debates and a more productive outcome overall. This is why, I imagine that seminars will continue in a virtual or hybrid setting. In this way, we can also reduce travelling, especially long-distance flights, which will hopefully contribute to ecological sustainability.

Urban imaginaries after historical ruptures





How do historical ruptures change the way cities look – their image – and the way they are understood – their urban imaginaries? This project investigates how urban images and imaginaries are shaped and reconfigured after ruptures such as end of empire, aftermath of war or transition from dictatorship. It examines how urban imaginaries relate to the making of cities in spatial-architectural terms, but also to economic and political processes. The project focuses on the historical experiences of cities that identify with two particular urban imaginaries, related to understandings of cosmopolitanism and modernity. First, it examines post-imperial cities in Europe such as Sarajevo, Rijeka and Thessaloniki, where the dominant imaginary is one of being cosmopolitan places of diversity, but which have in fact experienced different forms of conflict, population change and exclusions. Second, it discusses how a particular form of urban modernity, the imaginary of Paris, which Harvey (2004) deemed the "capital of modernity", was embraced by three cities in different geographical contexts – a "Paris of the Middle East" (Beirut), "Paris of the Balkans" (Bucharest), and "Paris of Latin America" (Buenos Aires) – and how this imaginary morphed during war, dictatorship and neoliberal transitions.

Gruia Badescu

Research Fellow since 07/2020
Department of History and Sociology

Beirut-Sarajevo dialogues: from research to visual media

The cities of Beirut and Sarajevo share an Ottoman past, imperial makeovers, a history of Christians, Muslims and Jews living side by side, but also the experience of recent war destruction. I started researching the post-war reconstruction of the two cities with a National Geographic Young Explorers Grant in 2008-2009. This past academic year brought a new publication on this comparison, in which I explore the endurance of a cosmopolitan heritage in the two cities. But it also marked the beginning of an exciting new step: the award of the Zukunftskolleg Intersectoral Cooperation Programme for the project "Beirut- Sarajevo Intersections", realized together with Lebanese filmmaker Sabine el Chamaa. The project examines visually how the trajectories of these cities intersect and explores whether and how their urban histories, memories and imaginaries mirror each other. The medium of film and other visual media will bring an experimental edge and move beyond the horizons I usually explore in an academic fashion. In our meeting in Konstanz in July 2021, we developed a vision for the project's outcome: an exhibition/ installation, including a constellation of visual media — film, collage, photos. COVID-19 permitting, we will meet in Sarajevo and Beirut this autumn for filming on location, with exhibitions in the two cities and in Konstanz foreseen for next year. I am excited about bringing this last decade of research to multiple audiences through this creative engagement.

SUSTAINABILITY STATEMENT →

In my work on cities after political ruptures, sustainability figures in different ways. More broadly, cities and urban mobility are key to more sustainable living, and in the specific case of post-war cities, reconstruction can be done with sustainability in mind. In these post-war contexts I study, there is also the specific problem of the sustainability of peace. In the visual media project I am implementing with Sabine el Chamaa, the issue of environmental degradation and unsustainable urbanism features prominently. Moreover, I aim to contribute to the debates on the multiple facets of sustainability and am now authoring the chapter on sustainability in cities in conflict for a book on Sustainable Development Goal 11.

For my research, being on site is essential: From archives to participant observation and the architectural research methods I employ, presence on site is crucial. This past year, I have concentrated on the cities in my project that I could reach by train – and over the years I have in general shifted to train travel. However, for places such as Beirut and Buenos Aires, flights are rather indispensable. Accordingly, I strongly believe that decisions at institutional level to restrict flights should always be made on a case-by-case basis – some disciplines and projects are dependent on personal presence on site for research. Pan-institutional decisions in favour of all-encompassing measures could have a bad impact on such projects.

Three contextual dimensions for work-family decisions

Demographic ageing means that we are living longer and longer, and the birth of a person's first child is happening later and later. These developments put our pension systems under pressure, and various reforms have been implemented in European countries which prolong the working lives of men and women. At the same time, people have always cared for their elderly relatives, and the contribution of family caregivers is still very important.

This poses new challenges for these men and women, namely, how to reconcile working, being an active grandparent and taking care of elderly family members.

These new reconciliation issues are at the core of my research. I aim to find out under what circumstances such reconciliation is successful: What does successful reconciliation have to do with our previous working biography, family structure and the country in which we live?

Ariane Bertogg

Postdoctoral Fellow since 04/2020
Department of History and Sociology

Crises as challenges and opportunities for more inclusive societies

In many aspects of social and academic life, the past year was dominated by the COVID-19 pandemic. As a sociologist, I am interested in how such a crisis affects peoples' behaviour and whether it reinforces social inequalities. Much of my research in the past year has therefore been dedicated to these questions. To that end, I worked together with researchers from the cluster of excellence "The Politics of Inequality" on the design and data analysis of two online surveys. Together with Susanne Strauß and Luna Bellani, I found that women have been harder hit by the pandemic than men in two ways: Their workload in terms of housework and childcare has increased and their life satisfaction has decreased to a greater degree. Together with Sebastian Koos, I also analyzed social inequalities in the emergence of new local help as a result of the pandemic: Those more educated and with larger networks helped more. In the wake of this collaboration, I have obtained a grant as Co-PI at the cluster of excellence. The interdisciplinary and international CoPE project (COVID-19 Policies for Gender Equality) will investigate the effects of COVID-19 policies on gender inequalities in Germany, Italy, Finland and the Netherlands.

My own project at the Zukunftskolleg has progressed as well. I published an article which found that national care policies relying on family care are more likely to drive informal caregivers out of the labour market, and that labour market exits are more likely when the care receiver is a partner or a grandchild rather than a parent. Not least, I submitted a grant proposal to the German Research Foundation which will build on and extend the current Zukunftskolleg project.

SUSTAINABILITY STATEMENT →

In my private life, I have tried to live in a climate-friendly way for a while now: avoiding flights, not owning a car, keeping to a vegan diet. This stance naturally translates into research interests and practices. As one positive side effect of the pandemic, I avoided travelling to conferences. Another is that I explored new modes of working and parenting, which have enhanced my family's wellbeing without making me less productive.

In my professional life, I have thought a lot about how I – as a social scientist – can contribute to building more sustainable societies. Economic, ecological and social sustainability are not contradictory but go hand in hand. I believe that my expertise can make a difference in two ways. First, my research on participation, inclusion and wellbeing in old age produces relevant insights for re-structuring and governing ageing societies. Second, the social, economic and health vulnerabilities during the pandemic have revealed how inequalities come about. By studying these mechanisms, we can identify the learning potentials from the pandemic and highlight possible opportunities and routes for creating more inclusive and just societies. My ambition is to put my capabilities as a researcher at the service of sustainable societal development.

Little Richard illuminates histories of gender, sexuality, race and popular culture in the West

Tutti Frutti: Little Richard, Sex, Gender, and Transgression in America and Europe investigates the extraordinary career of musician Little Richard. Covering the years 1955-64, the project explores a wide range of facets regarding Richard's career through its examination of a central question: how the singer became one of the most successful figures in mid-twentieth-century popular music, achieving ground-breaking popularity with cross-racial audiences in the United States and Europe, while consciously predicating his persona on male effeminacy and the suggestion of same-sex desire. In answering this question, Tutti Frutti illuminates how post-war Western audiences interpreted gender nonconformity, sexual difference, black male identities, contemporary popular music, and Americana. I analyze how ubiquitous views of these issues were throughout the West and across various demographic groups such as youths, white people, black Americans and Europeans, the LGBTQ community, and other relevant observers.

Jacob Bloomfield

Postdoctoral Fellow since 07/2020
Department of Literature

Two monographs in progress

I have been so grateful for the remarkable support of the Zukunftskolleg over the past year. My greatest achievement since the previous annual report relates to the publishing of two monographs based on my academic work. My first monograph, Drag. A British History, is based on my doctoral thesis and has now been significantly edited in preparation for its publication as a book. As of July 2021, I have submitted Drag. A British History for peer review, and it is due to be published by the University of California Press within its Berkeley Series in British Studies in 2022. My second monograph, Tutti Frutti: Little Richard, Sex, Gender, and Transgression in America and Europe, is now under contract with the University of London Press and will appear in its New Historical Perspectives series. I will submit Tutti Frutti for peer review in 2023.

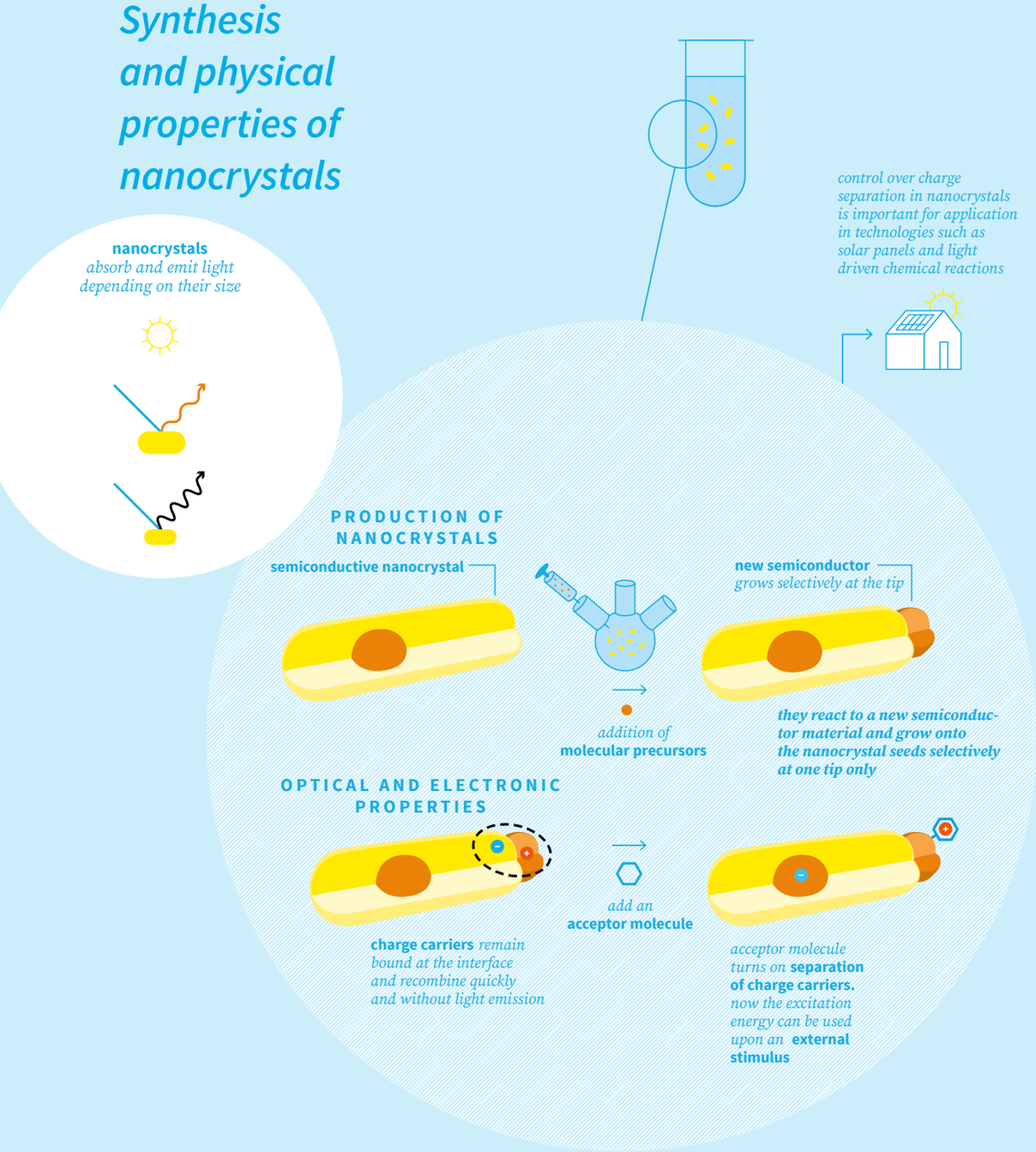
Drag. A British History argues that drag performance has persisted as an intrinsic and conspicuous part of British popular culture and entertainment despite cultural anxieties that associated male cross-dressing with transgressive acts, behaviours and categories of identity. Tutti Frutti investigates the extraordinary career of musician Little Richard; specifically, how the singer became one of the most successful figures in mid-twentieth-century popular music, achieving ground-breaking popularity with cross-racial audiences in the United States and Europe, while consciously predicating his persona on male effeminacy and the suggestion of same-sex desire.

SUSTAINABILITY STATEMENT →

I am always conscious of the sustainability of my research. As my academic work is largely self-driven and small-scale – this past year I was able to perform most of my work with just a desk, library books and a computer – I have hardly needed to carry out activities that emit an undue amount of carbon.

As I begin to travel for archival research again, I will proceed with appropriate awareness of my project's environmental impact. The availability of a vast treasure trove of online databases, such as ProQuest and the British Newspaper Archive, will allow me to limit the number of international trips I take to conduct archival research. I am grateful to the Zukunftskolleg for helping to cover my subscription fees for online archival resources through research funding. The KIM team, particularly Uwe Jochum, were very helpful in assisting me with ProQuest access.

At the University of Konstanz, we are fortunate to have unique resources such as the Green Office to assist us in carrying out sustainable research. I am committed to working in tandem with the Green Office, along with other players at the university who can provide guidance on conducting sustainable research, in order to prioritize sustainability as my project progresses.



Semiconductor nanocrystals, sometimes referred to as "artificial atoms", are extremely interesting materials for many areas of modern technology because they absorb and emit light depending on their size. When two or more materials are combined, the resulting interface creates a new functionality that can be used, e.g. in solar cells, photocatalysis or optical switches. In molecules, many strategies have been developed to add functionalities at specific atomic positions. It is difficult to fabricate analogous "artificial molecules" from nanocrystals.

I work on regio-selective methods of growing nanocrystals and heterostructures that exhibit optical and electronic properties with a preferred directionality.

Charge carriers in the nanoparticles can be excited by light and their dynamics can be controlled by how the interfaces between the nanocrystal components are designed.

Klaus Boldt

Research Fellow since 04/2015
Department of Chemistry

Regioselective synthesis of complex nanomaterials

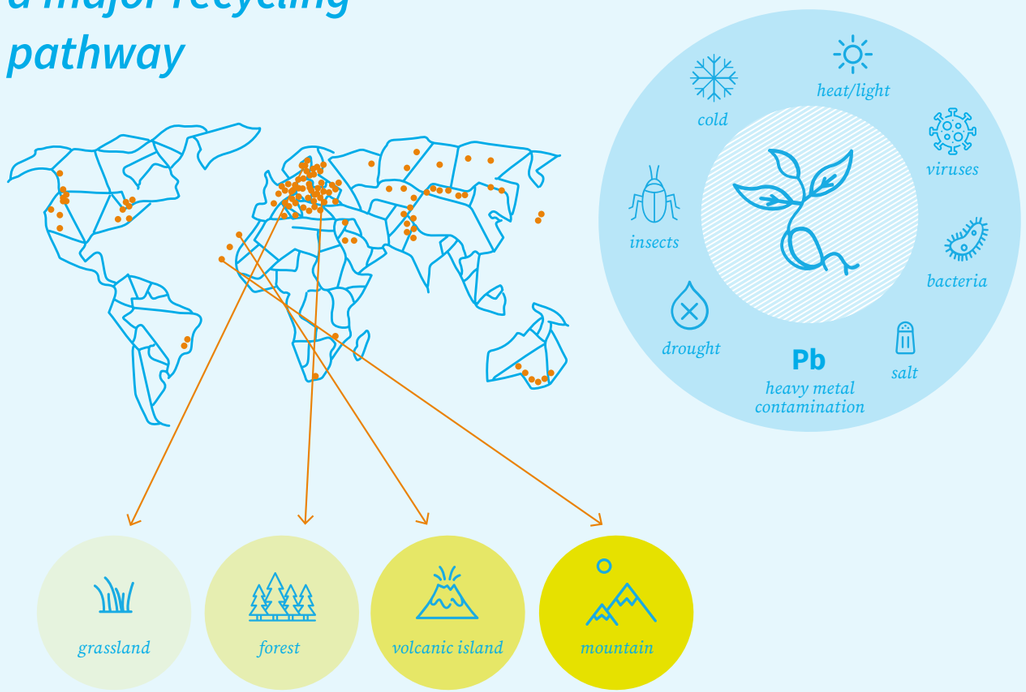
In 2019, I developed a method to quantify material gradients between the core and the shell of core/shell nanocrystals. Semiconductor nanocrystals are often fabricated with a shell of a second semiconducting material in order to enhance their quantum efficiencies and produce materials that cannot be made using a single material. Often the difference between the crystal structures between core and shell can introduce defects. A strategy to counter this has been the formation of a gradual rather than abrupt change of materials at the core/shell interface. However, the spatial extent of such a gradient has not been measured before, and previous assumptions have often been guesswork. Using a combination of extended X-ray absorption fine structure (EXAFS) and Raman spectroscopy, I could show that strong diffusion of the cations, and hence formation of a gradient, already happen at moderate temperatures of 260 °C, often employed for the synthesis of core/shell nanocrystals that were assumed to have a sharp interface. At higher temperatures of 290 °C, I could show that an ordered, ternary structure forms in the core to minimize strain of the crystal lattice, which makes it possible to explain and predict a number of opto-electronic properties of high-quality nanocrystals.

The experimental work was conducted at the Australian Synchrotron in Melbourne and supported by a Zukunftskolleg Research Visit grant. The findings were published in the Journal Nano Letters (IF 12.279) in January 2020.

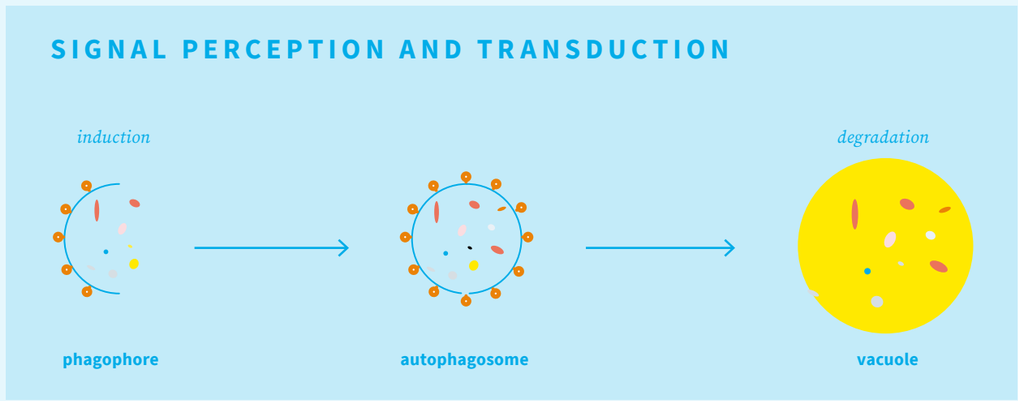
SUSTAINABILITY STATEMENT →

The question of sustainability affects research in the field of nanomaterials in several important ways. Firstly, the strategy of miniaturizing systems to obtain the highest possible effect (e.g. catalytic efficiency or quantum efficiency of a solar cell) with the smallest amount of material and with a low energy footprint is at the heart of the discipline. Secondly, the materials in question are also significant for the future of nanoscience. Many compounds that have been thoroughly explored contain heavy metals such as cadmium, lead or mercury. That is why in 2020 I started to shift my research towards more environmentally benign and less toxic materials. One example is the replacement of the bivalent Cd in materials such as CdS with a mono- and a trivalent metal ion, e.g. $CuInS_2$. These materials show a range of properties that are absent in the more commonly investigated semiconductors, and both opto-electronic properties and chemical strategies have to be re-evaluated. With these goals in mind, nanotechnology will play a central role in making modern technology more sustainable.

Natural variation of autophagy – a major recycling pathway



natural variants have different need to recycle



Autophagy, or self-eating, is a major recycling route confining damaged or no longer needed parts of the cell to a bubble-like structure (autophagosome), which is then degraded (in the vacuole) into building blocks that can be reused. In order for a plant to start autophagy, it needs to experience lack of a major nutrient, environmental stress or a pathogen attack. The plant Arabidopsis thaliana has thousands of natural varieties living in habitats which differ in latitude, altitude, soil type, light regime, temperature and water availability. Using a screening, based on the response of those varieties to prolonged darkness, we are investigating their different ability to perform autophagy and the mechanisms behind. What are the signals inducing autophagy? How are the different stimuli sensed by the plant? How is the process regulated? When and how is the autophagy machinery maintained in a functional state?

Svetlana Boycheva Woltering

Research Fellow since 04/2020
Department of Biology

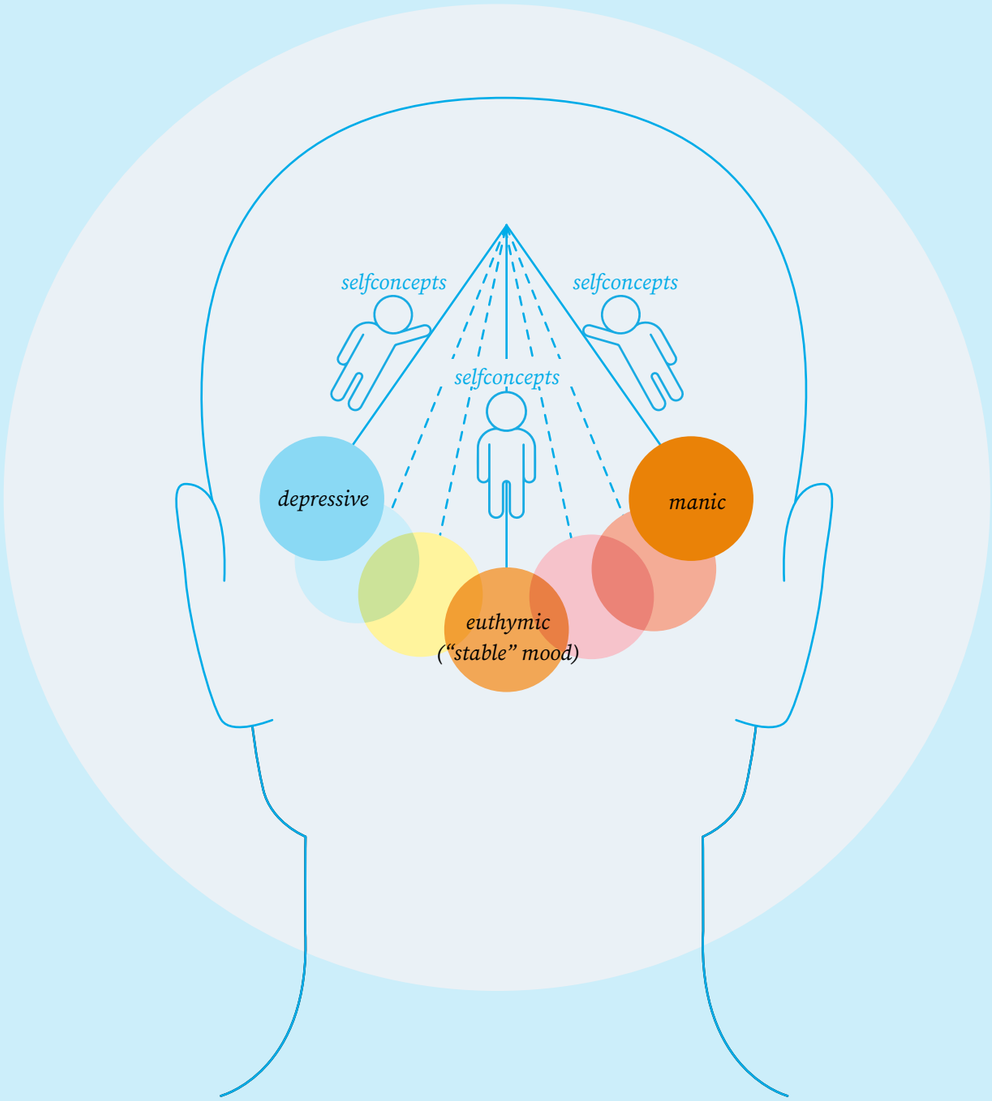
The excitement of setting up your research

During the past year, I have focused on developing important tools and methods for studying natural variation of autophagy which will be instrumental for my future work. Part of it was made possible by the co-funding provided by the Zukunftskolleg, which allowed me to conduct a key experiment. This initial process is indispensable in my field, but already proving to be quite rewarding.
I consider the review article I published in the second half of 2020, providing a new focus on autophagy in higher plants, to be my greatest achievement. The review focuses on the regulation of the process and more specifically on the role which certain diversified proteins play in its fine-tuning.

SUSTAINABILITY STATEMENT →

With the focus of my project being an important recycling pathway, which also happens to play a very significant role in adaptation to the environment, it has been inevitable and quite natural that I have become influenced by sustainability to a major degree. My main long-term goal is to successfully transfer the knowledge acquired with a model species and fundamental methods to a more applied field. The success of local production of staples and other food crops, thus eliminating long-distance transport whenever possible, would strongly depend on the adaptability of the plants to specific conditions. Developing a tool to predict their adaptability or a set of specific markers, such as genes or proteins, could provide a relatively fast and inexpensive answer as to which is the best cultivar for a specific region with its microclimate. I am currently testing such markers on my model Arabidopsis thaliana, hoping to contribute to the understanding of autophagy and sustainable development.

Bipolar disorder and the self



Bipolar disorder, sometimes called manic-depressive disorder, is a severe and common psychiatric illness characterized primarily, but not exclusively, by pathological mood swings. Its symptomatic phases are also accompanied by changes to cognitive, behavioural and personality patterns. On the one hand, depressive phases can be unpleasant; on the other, its manic phase may bring about "positive" aspects such as heightened creativity and productivity, as reflected by the abundance throughout history of great writers, artists and composers with bipolar disorder. As bipolar disorder is heritable and lifelong, its symptoms can have a profound effect on the development and structure of the self. This sometimes leads to confusion about whether one's individual traits are the result of one's "true self" or are manifestations of the illness, among other issues. My project uses philosophical theories about personhood and identity to provide new insights on how to address and resolve such concerns.

Sidney Carls-Diamante

Postdoctoral Fellow since 07/2020
Department of Philosophy

Philosophical explorations of bipolar disorder

My project introduces a philosophical dimension to research on bipolar disorder by investigating the existential issues that emerge from living with the illness. In particular, it explores and systematically analyzes the various experiences that arise from the complex relationship between bipolar disorder and the structure of the self. The project comes in the wake of the pressing need for humanistic research in psychiatry, wherein the concerns related to the experience of living with a psychiatric illness are studied in depth.

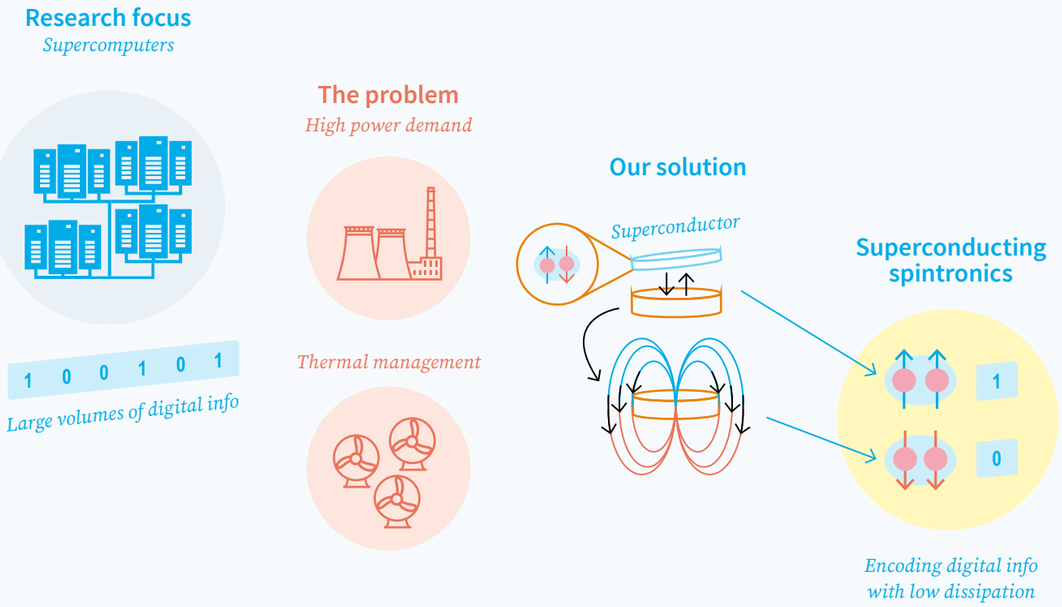
I have completed two manuscripts in the 2020/21 academic year, which are currently under review. These papers explore the relationship of bipolar disorder to the structure of the self and the nature of bipolar disorder-related creativity, respectively. I am also scheduled to give a number of conference presentations on related topics later this year.

Alongside my Zukunftskolleg project, I also work on consciousness and cognition in octopuses, a field of which I am a proponent. I have recently published a paper that applies a predictive processing framework to octopus motor control and given several talks on cognition in octopuses throughout this academic year.

SUSTAINABILITY STATEMENT →

Due to the pandemic situation, all my research-related activities have been online. This has allowed me to disseminate my research and learn about others' work efficiently, as it has been possible to give and attend multiple talks within a short period of time without having to travel within Germany or abroad. Since my research project does not involve fieldwork, giving talks is the main reason for research-related travel. I have found that online talks or conferences facilitate research communication, as they remove the logistical limitations that hold for on-site activities.

Modern supercomputers require a performance comparable to that of a small power plant and cause enormous cooling costs.



Modern supercomputers can perform billions of billions of operations per second, but they require an amount of power comparable to that produced by a small power plant to operate and they generate enormous cooling costs. We are developing a new technology that can be used to reduce the power consumption of future supercomputers. Our idea is to combine materials called superconductors, which due to the existence of electron pairs inside them dissipate very low energy, with ferromagnetic materials, which can act on the magnetic property of an electron called spin. The combination of these materials leads to the generation of pairs of electrons where both spins are aligned along the same direction. These spin-aligned pairs of electrons can be linked to the "1" and "0" bits in computer logics, meaning they can be used to encode and process digital information in future supercomputers with very low energy dissipation.

Angelo di Bernardo

Research Fellow since 05/2021
Department of Physics

Developing new energy-efficient supercomputers

The increasing demand for more powerful computers is continuously challenging the information technology industry and research scientists to develop electronic devices that are smaller than existing ones. Conventional complementary metal-oxide semiconductor (CMOS) transistors, the fundamental components of any computer, have, however, reached a size (~ a few hundreds of atoms) where further scaling and performance enhancement seems unrealistic.

To keep up with the constant demand for faster electronics, alternative technologies to CMOS are emerging. One of these technologies is spintronics, where digital information is processed using the magnetic property of electrons called spin. An electron spin is like a bar magnet where the 'north pole' points either 'up' or 'down'.

Spin-polarised currents made of electrons with all spins up or down are used in spintronics to encode the bits 1 and 0 and are generated using ferromagnet (F) materials – which act as spin filters allowing only given spin to pass. However, spintronic devices dissipate a lot.

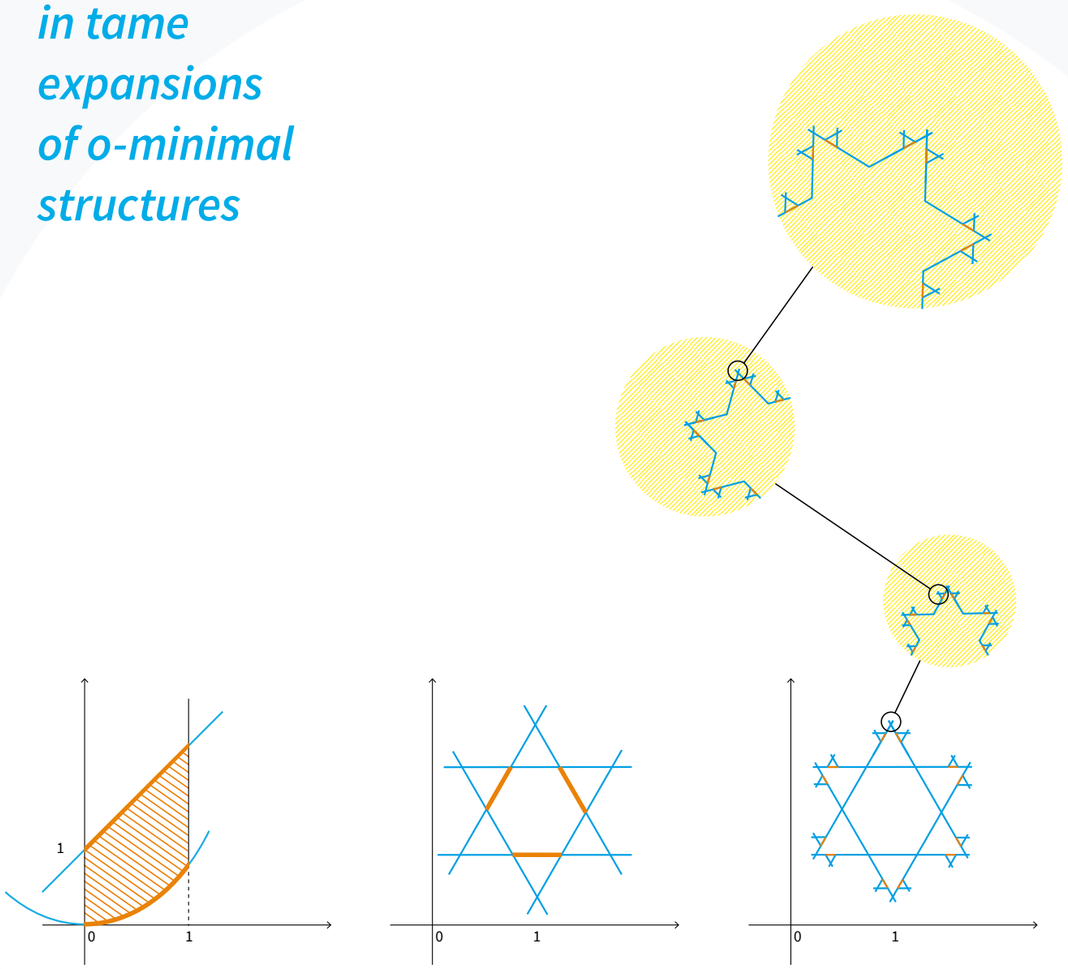
My research team, with the support of the Zukunftskolleg and other grants, is developing new spintronics devices based on combinations of Fs with superconductor materials – which have almost zero dissipation when cooled down. Our technology, called superconducting spintronics, can overcome the limitations of CMOS and spintronics and become key to the development of future large-scale computers and data centres. For these facilities, the power gains offered by superconducting spintronics should greatly exceed the cooling power needed for low-temperature operation.

SUSTAINABILITY STATEMENT →

The driving motor behind my research is the need to develop novel sustainable technologies for digital information processing. The power consumption and thermal management resulting from the increasing density of transistors per chip have become a reason for major concern. The most energy-efficient supercomputers currently listed on the Green500 need tens of megawatts of peak power to deliver a performance in the petaflop range, meaning 10^{15} floating point operations (flops) per second. It is estimated that the next generation of supercomputers currently under development and with a computational capability of a few exaflops (10^{18} flops) will have a power consumption in the sub-gigawatt range – which corresponds to the amount of power produced by a small power plant.

To address the problem of the increasing power demand of modern supercomputers, we are working on superconducting spintronics and other superconducting technologies that can be used to realize hybrid supercomputing architecture, where CMOS devices are integrated with low-energy dissipation devices based on superconductors. Lower energy consumption would result in reduced heat dissipation and thus also help address the thermal management problem.

Groups definable in tame expansions of o-minimal structures



tame

$Y \leq X + 1$ *AND* $Y \geq X^2$

tame

not considered tame

cannot be expressed as a solution set of a simple logical formula

Tame geometry is an area of mathematics, where geometric objects satisfying certain tameness conditions imposed by logic are studied. An algebraic set is defined using polynomial equations and inequalities and the logical symbol “AND”. It is considered tame because its basic properties, such as volume and dimension, are easy to calculate.

On the other hand, a fractal, such as the Koch snowflake, exhibits peculiar and abnormal properties and is not considered tame.
Tame geometry strives to identify exactly those geometric objects which, although large in scope, still exhibit tame behaviour.

Panteleimon Eleftheriou

Research Fellow from 05/2015 until 04/2021
Department of Mathematics and Statistics

Online seminar on “Topological and Differential Expansions of O-minimal Structures” (TDE seminar)

Since November 2020, Alexander Berenstein (Universidad de los Andes, Bogota) and I have run an intercontinental online seminar on “Topological and Differential Expansions of O-minimal Structures”. The seminar has been an important meeting point for all researchers in this field, who due to the current situation were unable to meet otherwise. The seminar has run consistently every two weeks, with an average attendance of about 20-25 participants per session. It deals with various expansions of o-minimal structures, an area of model theory with both pure and application interest. Model theory in general tries to extract new mathematical information from general (algebraic, topological, analytical) structures using machinery developed in mathematical logic. All lectures have been recorded and are accessible on the seminar’s website (http://www1.maths.leeds.ac.uk/~pmtpe/TDE/)

Better ways of translating democratic principles into practice remain to be found.

DEMOCRACY

An ideal of allowing all the people concerned by the decisions to participate in their elaboration...

Practices and institutions in current "democratic systems" that fall short of the ideal.

The way in which democracy is implemented nowadays appears to fall short of the democratic ideal: empowering all those impacted by political decisions to participate in making these decisions. Democracy is put at risk, for instance, by inequalities sustaining power asymmetries in favour of resourceful groups and by extreme polarization or misinformation that hinder collective will-formation processes. In my research, I ask whether the ideal of democracy could be translated better into practice. This entails (i) specifying what democracy normatively requires (e.g. should citizens only have the right to cast their ballot in elections, or should they also be empowered to vote on laws and policies in referendums? Which actors should play what role in determining which are the most urgent problems to collectively solve, and what solutions should be considered?) and (ii) assessing what institutions and practices should be part of democratic systems (e.g. How could traditional political processes, such as elections or petitions, be made more democratic? Should these traditional processes be complemented by more innovative ones, such as citizens' assemblies – and, if so, why and when?).

Alice el-Wakil

Postdoctoral Fellow since 07/2021
Department of Politics and Public Administration, financed by the Cluster of Excellence "Politics of Inequality"

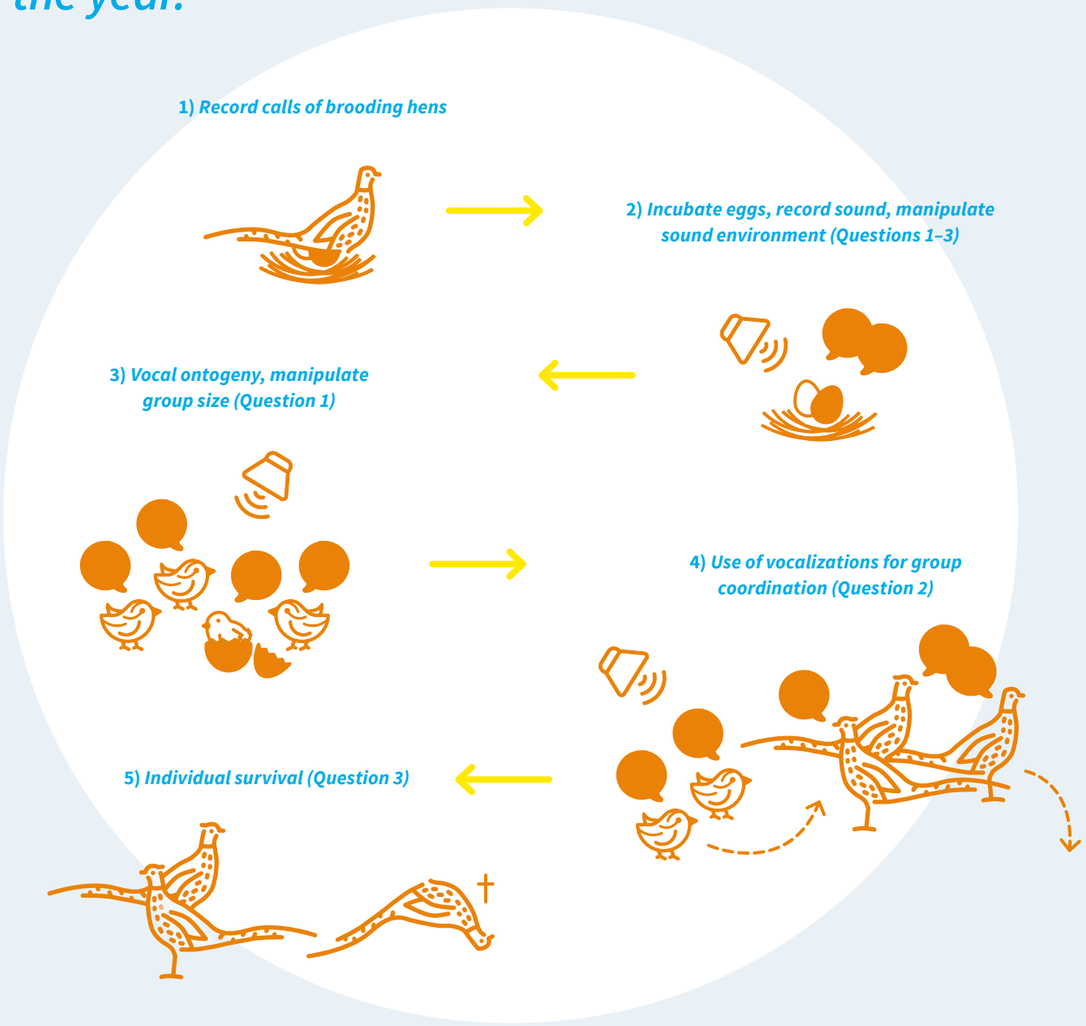
Democratizing agenda-setting at the Zukunftskolleg

The highlight of this past academic year was receiving the offer for my 2-year Postdoctoral Fellowship from the Zukunftskolleg and the "The Politics of Inequality" cluster in February 2021. This represents a unique opportunity for me to develop my postdoctoral research project, "Citizens as agenda-setters in democratic systems," in a fantastic environment. In a time when democratic systems fail to gather the support and trust of citizens and face contestation from movements demanding more responsiveness and voice, the project aims at clarifying what the widely supported democratic principle that "citizens should be involved in setting the political agenda" entails for our normative conception of ordinary citizens' role and for evaluating existing practices and processes. A conceptual part will identify and critically assess different conceptions of agenda-setting found in the multi-disciplinary literature on the topic. A more empirical and collaborative part will look at current agenda-setting practices – uncovering, in particular, which citizens participate in agenda-setting by signing petitions for referendums and initiatives. Both parts will ultimately serve to reflexively develop what I hope to be the core contribution of the project: a normative democratic theory of citizens as agenda setters that can enrich existing academic debates and inform political practice.

SUSTAINABILITY STATEMENT →

In the field of democracy studies, it is increasingly acknowledged that democratic systems tend to set problematic incentives to face sustainability challenges. In particular, the central institution of regular elections used to select decision-makers discourages them from tackling long-term problems and attending to non-human interests: Why risk losing the next election by adopting policies that will only show their benefits in the long run? A core challenge has thus been to develop proposals to modify these incentives – for instance by adding randomly selected assemblies not tied by elections in decision-making processes or by giving more votes to younger generations. The puzzle of how to incorporate climate activists' claims into democratic politics has been a motivation for my postdoctoral project. Beyond the collective action issues: I have been able not to fly for a while, and I hope it can stay that way.

Many animals live in groups for at least some part of the year.



Many animals live in groups for at least some part of the year. Individuals within these groups need to coordinate their actions in order to benefit from the presence of conspecifics, e.g. through increased predator detection. To coordinate group activities, many animals use acoustic signals, the proper use of which they acquire over time. Thus, experiences early in life can affect how individuals signal to each other, and this in turn can affect group coordination and individual survival. We will investigate the use of vocal signals to coordinate group activities in the common pheasant. In the UK, pheasants are routinely reared in captivity and then released into the wild. Using this system, we can study individuals from egg to death, while also being able to manipulate individual experience, such as the soundscape, already at the embryo stage. Specifically, we will ask 1) how vocal signalling develops across an individual's lifetime, 2) how signals influence group structure and coordination and 3) how early experience influences individual signalling and survival.

Gabriella Gall

Postdoctoral Fellow since 05/2021
Department of Biology, financed by the Centre for the Advanced Study of Collective Behaviour

Effect of early experience on individual vocal flexibility and group functioning

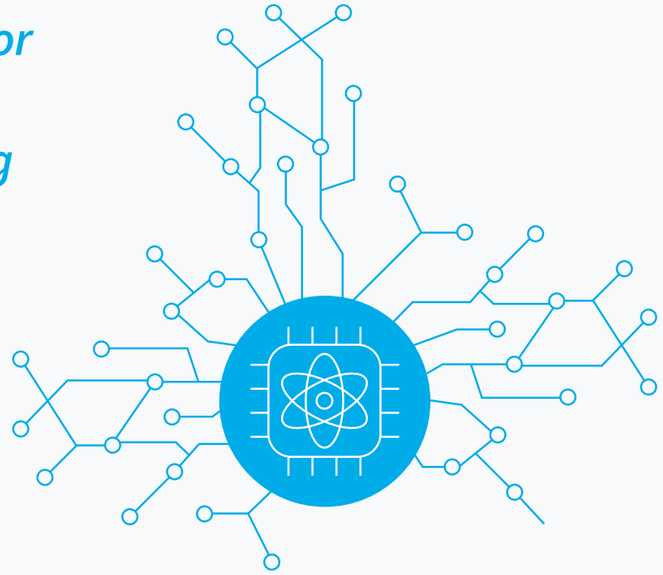
I started my Postdoctoral Fellowship at the Zukunftskolleg and the Centre for the Advanced Study of Collective Behaviour (CASCB) in May 2021. During my fellowship, I will investigate the use of vocal signals to coordinate group movement and activity in pheasants (Phasianus colchicus), which exhibit marked changes in group structure throughout the year. By using captive reared pheasants, released into the wild when mature, I can manipulate each individual bird's development and state as well as group compositions and track their associations and survival post-release using novel bio-logging technology.

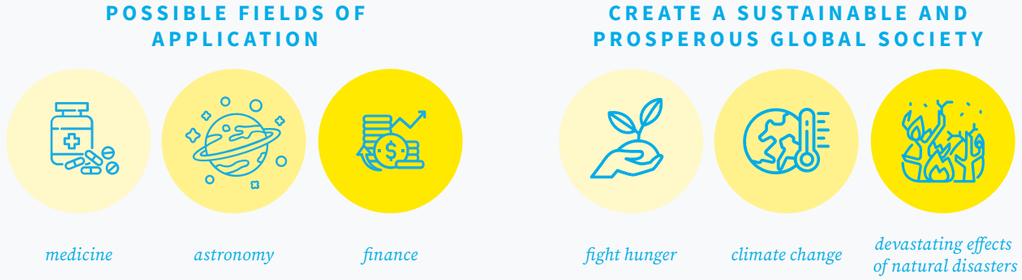
Due to the limitations regarding the start of the fellowship, I will commence my project with a study on the domestic chicken (Gallus gallus domesticus) – which can be obtained at any time of the year – with the same methods as planned for the pheasants, but without releasing the birds into the wild (focusing on Questions 1 & 2). This study will thus allow me to test my data collection method in the lab and to fine-tune the experimental setup. Finally, these data will be interesting in their own right and permit a cross-species comparison to the data on pheasants.

SUSTAINABILITY STATEMENT →

My research project at the Zukunftskolleg is not very sustainable, as it requires live animals, the use of various types of technology and travel abroad for data collection. However, I try to reduce the carbon footprint of my research whenever I can. For instance, thinking about sustainable research made me look for a study system available in Europe in order not to travel long distances. Unfortunately, the current COVID-19 pandemic has upset my plans because to get to Exeter, where my collaborator is located and where I will collect my data, I will have to fly rather than take the train the whole way in order to avoid travelling through additional countries with constantly changing entry and transit regulations. Other considerations include purchasing high-quality, durable equipment, which can be used for many years, as well as high ethical standards with regard to all animal handling and data collection.

Machine learning for quantum computing





The topic of my research is how to use machine learning in order to help with the implementation of certain aspects of quantum computing. The fields of machine learning and quantum computing are two of the hottest in research today. By promising to allow us to solve problems that are currently computationally unsolvable, both fields will have an enormous impact on every aspect of our lives.

Machine learning is a subfield of artificial intelligence, in which we give machines access to information and let them use that information to learn. Machine learning is already used extensively in our everyday lives. It is used in what Amazon or YouTube recommends for you; Uber or Lyft use machine learning and so do the autopilots in commercial airlines. In science, it has helped fields such as drug discovery, cancer research and personalized medicine. It was used on a large scale for the development and improvement of the vaccines against the SARS-CoV-2 virus. Recently, machine learning is finding application in the area of quantum computing.

A quantum computer can use certain phenomena from quantum mechanics, such as superposition and entanglement, to represent data and perform operations on it. Instead of using bits, which can be on or off, like today's computers do, quantum computers use qubits, which, in addition to being possibly on or off, can be both on and off until a measurement is made. The state of a bit on a normal computer is known with certainty, but quantum computation uses probabilities. Due to their complexity, only very simple quantum computers have been realized until now. If large-scale general-purpose quantum computers become a reality, they will be able to solve certain problems much more quickly than any computer that exists today.

Quantum computing and machine learning are powerful tools in helping to create a sustainable and prosperous global society. Sustainability focuses on the preservation and conservation of natural resources for future generations, as well as facilitating people's access to much needed resources. Quantum computing and machine learning can help fight hunger, climate change and devastating effects of natural disasters; they can facilitate drug development and medical innovations. At the same time, we have to be careful that these powerful and advanced technologies do not magnify inequality and injustice and cause the disadvantaged to fall further behind. Namely, we have to be aware of the possible biases, negative social and economic effects for groups of people, as well as potential human rights infringements, which such powerful innovations can bring about.

Violeta Ivanova-Rohling

Postdoctoral Fellow since 06/2020
Department of Physics

A productive and exciting year at the Zukunftskolleg

In the past year, I have significantly advanced my project on the development of machine learning methods for quantum state tomography, which in turn would allow for the development of a functional quantum computer. I have researched different approaches for efficient quantum state tomography for quantum sensing as well as for a quantum computer, with and without the presence of noise. I have enjoyed fruitful collaboration with my host, Professor Burkard, which has resulted in scientific publications. Teaching a seminar on “Machine Learning for Quantum Computing and Quantum Enhanced Machine Learning”, where the students were introduced to the latest developments in this field, was a wonderful and very rewarding experience, and I am supervising a master’s student in his project. A very exciting part of my scientific activities was presenting my research at the American Physical Society March Meeting. I took part as a speaker at a film screening and open discussion on “Coded Bias” within the series “Racism in Academia” organized by the Zukunftskolleg, where we discussed how artificial intelligence algorithms affect people of colour and minorities. I look forward to more teaching next semester, bigger successes in my research and focusing on using innovation for social good.

SUSTAINABILITY STATEMENT →

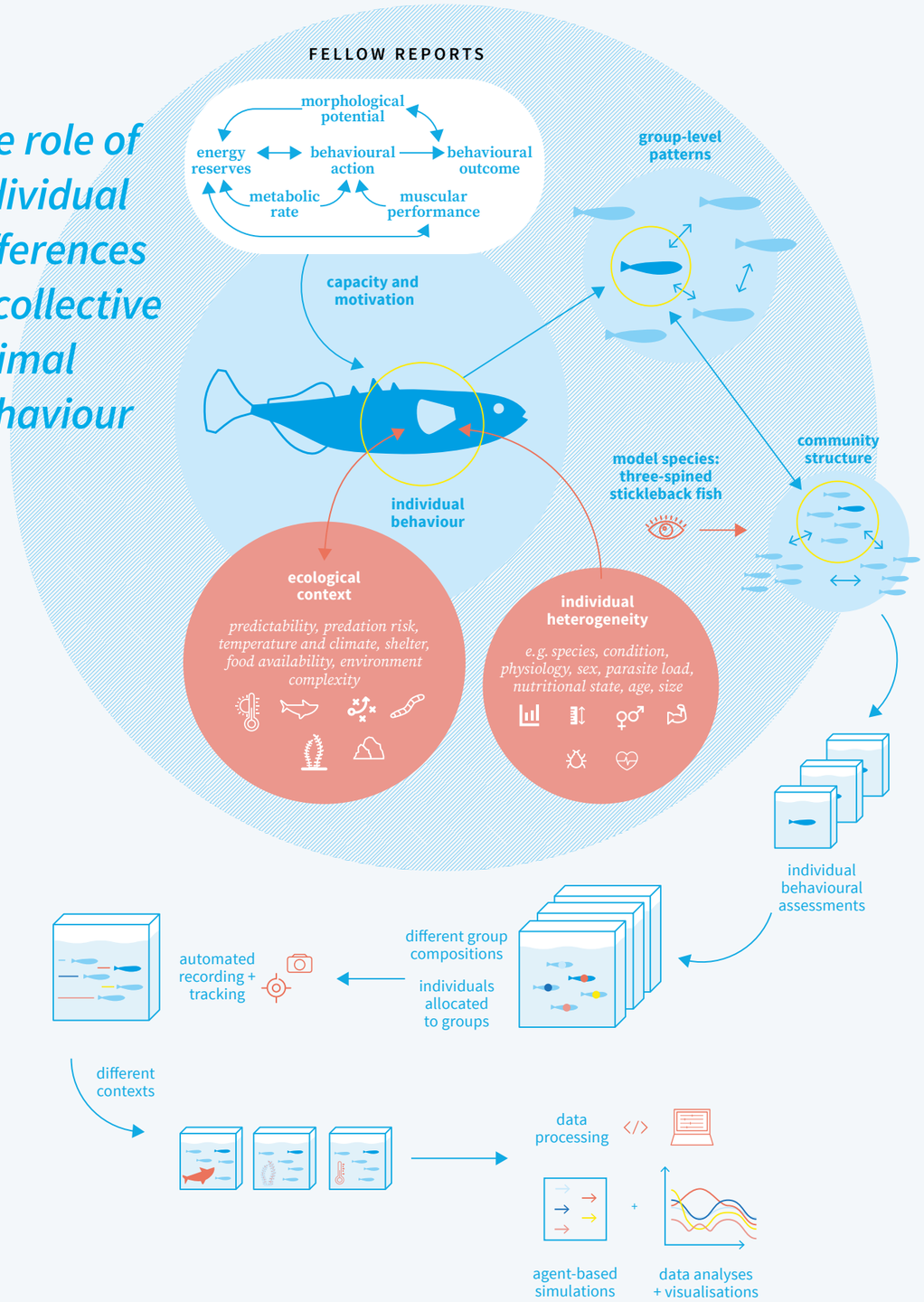
Given the growing role of sustainability for the peace and prosperity of our global community now and in the future, the UN has outlined 17 specific sustainable development goals, including, among others, an end to poverty and hunger worldwide as well as several goals related to the preservation of natural resources. My project is focused on using machine learning for efficient quantum state tomography (QST) to allow the development of a functional quantum computer, which could have a strong impact on most of the UN’s sustainability goals.

Quantum computing shows great potential for handling the computational complexity of disaster preparedness and intense weather events. It could alleviate world hunger and decrease the environmental impact of fertilization by helping to find new and better catalysts for use in the production of ammonia fertilizers, thus significantly reducing the cost of the Haber-Bosch process. A quantum computer could help in the development of materials that allow the efficient utilization of energy from renewable resources and the identification of superconducting materials that operate at room temperature and do not require an energy-intensive cooling process. Moreover, I investigate efficient QST for quantum sensing using diamonds, which can be used to observe time-sensitive effects in the human body, such as cancerous tissues, as well as to obtain more detailed images in order to help better understand a disease.

Additionally, the digitalization of my collaborations and conference visits has helped make the way I conduct my research more sustainable both economically and environmentally.

However, without global social awareness of the importance of sustainability and the will for change, even the most powerful technological and scientific innovations will not help combat social and environmental problems.

The role of individual differences in collective animal behaviour



Throughout the animal kingdom, animals live and move together in groups. From the small-scale interactions among individual group members, seemingly complex large-scale collective patterns emerge that are often strikingly beautiful, such as the highly synchronized movements of schools of fish and flocks of birds. My research is focused on understanding what role individual differences play in the emergence of collective behaviour. Using three-spined stickleback fish as my model species, I investigate how personality differences, such as boldness, activity and sociability, and other levels of heterogeneity, e.g. the sex and parasitic state of individuals, drive collective behaviour. By combining laboratory experiments, in which we track individual fish, with field observations, we have demonstrated that individual heterogeneity has major consequences across social and ecological scales, including variation in the structure, leadership, movement dynamics and functional capabilities of groups.

Jolle Jolles

Postdoctoral Fellow from 03/2018 until 03/2021
Department of Biology

Publication of a large-scale review and guidance paper

For me, one of the major achievements this past year has been the publication of the single-author review article “Broad-scale applications of the Raspberry Pi: a review and guide for biologists” in Methods in Ecology and Evolution. Since the start of my doctoral degree, but especially over the last years while at the Zukunftskolleg, I have been using and pushing for what are known as open electronics in biological research. The Raspberry Pi is a low-cost single-board computer and a highly versatile research tool that can be used for almost any project, but I discovered knowledge and uptake of these devices in the biological sciences is still limited. I therefore decided to start giving workshops for biologists and to write this extensive review paper, which documents over a hundred different applications across the biological domain. Furthermore, to help researchers take up these devices, I also provide guidelines and recommendations and have developed a dedicated website with over 30 simple-to-use tutorials: http://raspberrypi-guide.github.io. With the support of the Zukunftskolleg, I have been able to dedicate time to this exciting project that will hopefully lead to an increased awareness and use of these and other open electronics and thereby ultimately help advance our understanding of biology, from the micro- to the macro-scale.

SUSTAINABILITY STATEMENT →

In my work, I have been using and pushing for an increasing use of open electronics. Besides their high versatility, I believe these devices, and therefore their broader uptake, are also highly beneficial because of their positive effect on sustainability – both from a financial and an environmental perspective. Open electronics are not only low-cost, alleviating the often high entry costs associated with research equipment, but also highly customizable and easy to service and upgrade, thus helping to reduce repair costs and limit waste of devices that become outdated.

Human linguistic diversity is staggering: About 7,000 distinct languages are spoken around the world, with an order of magnitude more dialects. All languages also undergo changes that accumulate, snowball-like, over repeated everyday interactions, and consequently linguistic variation is never static. Making sense of this variation and change requires viewing language as a multilevel phenomenon, whose large-scale, global regularities arise from innumerable interactions at lower levels. To test specific hypotheses about the dynamics of language, I formulate them as mathematical models, whose behaviour I then examine in computer simulations or using analytical mathematical methods. Finally, the models' predictions are evaluated against empirical data, which may either corroborate or refute the original hypotheses.

Henri Kauhanen

Postdoctoral Fellow since 10/2019
Department of Linguistics

Linguistic features: hot or cold?

In a recent article co-authored with colleagues from the UK [1], we asked if different structural features of language change at different speeds and, if so, how these speeds of change can be quantified and measured. Whereas previous work in this area has estimated rates of change using phylogenetic methods involving reconstructions of past language states and linguistic relationships, our approach is purely areal: We take the present-day geographical distribution of a linguistic feature and try to infer from it something about that feature's evolution. This can be done thanks to a novel mathematical model – inspired by statistical physics – which describes how linguistic features evolve over time and across space, and which predicts a "temperature" for each individual feature. We looked at 35 features in hundreds of languages and found our results to be broadly in line with previous results obtained by means of phylogenetic techniques. For example, deep structural features, such as basic word order, are "cold" and tend to change slowly, while more superficial features, such as certain speech sounds, are "hot" and therefore much more likely to be either lost or innovated. This suggests that the cultural evolution of language leaves a global geographical footprint that preserves information about our linguistic past.

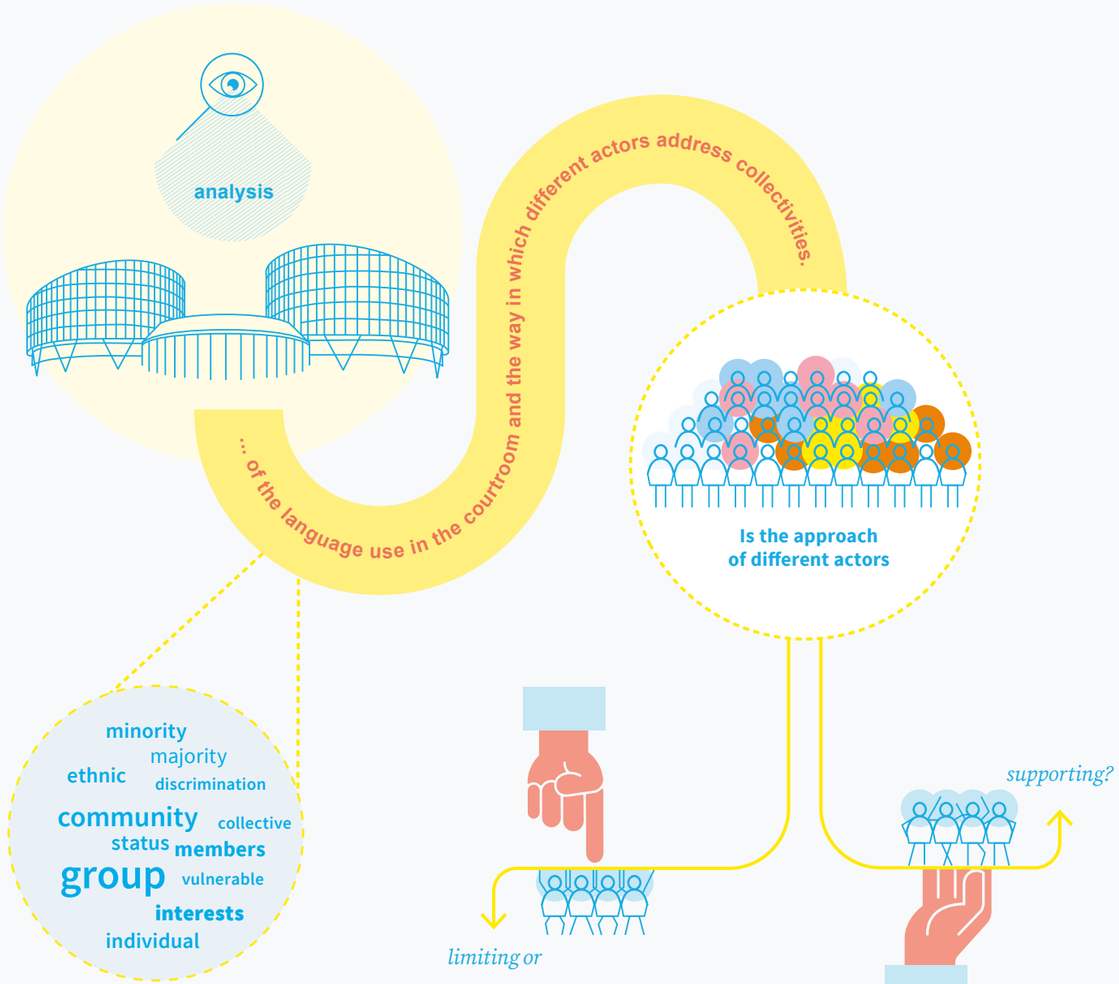
[1] Kauhanen, H., Gopal, D., Galla, T. & Bermúdez-Otero, R. (2021) Geospatial distributions reflect temperatures of linguistic features. Science Advances, 7, eabe6540. https://doi.org/10.1126/sciadv.abe6540

SUSTAINABILITY STATEMENT →

Much has been said about one potentially positive change brought about by the COVID-19 pandemic: the fact that we fly less – that we, as academics, in particular, fly less to attend conferences. This is indeed a positive development in many ways. However, in view of recent estimates that the carbon footprint of the internet roughly equals the carbon footprint of global air traffic [1], we need to consider how the alternative actions we take continue to adversely affect the environment. Academia, in particular, relies heavily on information infrastructure – ranging from individual scholars' tweets to large-scale data centres and supercomputing clusters – and on the electricity demand that results from operating this infrastructure, not to mention the environmental and human impact of the supply chains that lead from raw materials to our electronic devices. We would do well, I think, to discuss these matters more, especially given how invisible the problems are to us as end users.

[1] https://www.bbc.com/future/article/20200305-why-your-internet-habits-are-not-as-clean-as-you-think

What makes a group?



Research on group or collective rights is mostly conducted on a theoretical level by outlining the general conditions for such rights to exist. Although these are crucial preconditions for any debate on group rights, some difficult questions in practice remain: How are such groups defined? Do they consist of ethnic or national minorities, people with disabilities, workers or religious communities? Or do they include all of them? Are such categorizations useful for the advancement of group rights based on collective interests? My research aims to find out which, if any, criteria the actors in the courtroom of the European Court of Human Rights refer to when categorizing a group or collectivity in discrimination cases. I also investigate the extent to which additional denominators such as "vulnerable group" affect the language use in the courtroom. By analyzing the ways in which the actors in the European Court of Human Rights describe groups in discrimination cases and whether their approach limits or supports rights held by groups, my study contributes a practical perspective to the current body of group rights research.

Cornelia Klocker

Postdoctoral Fellow since 04/2019
Department of Law

Putting anti-racism on the Zukunftskolleg agenda

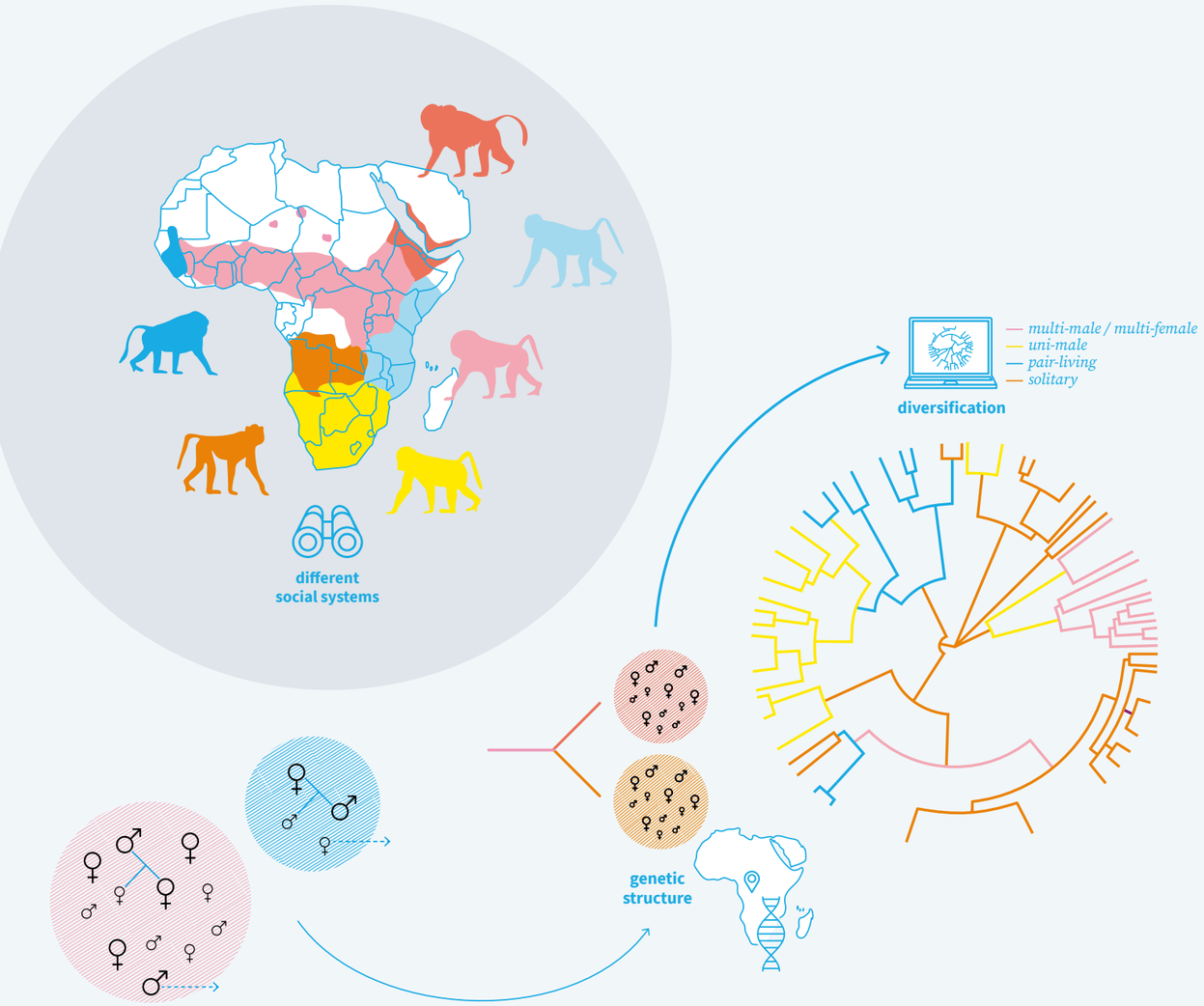
In the 2020/21 winter semester, the Zukunftskolleg Anti-racism Committee, of which I am a founding member, started to organize a series of events addressing racism in academia. The committee was formed amid the global wave of protests in the wake of the murder of George Floyd in the United States, with the aim of expressing solidarity and of bringing anti-racism into focus at the Zukunftskolleg. So far, the event series has featured a keynote lecture, a film screening, workshops on unconscious bias and diversity, a critical view on Western-dominated academia from the perspective of African scientists and researchers, an online exhibition, a panel discussion on decolonizing race from a Latin American perspective and a panel discussion on dealing with colonial pasts through academic and artistic interventions. Of these events, I organized, introduced and moderated the keynote lecture, the film screening, one unconscious bias workshop and the panel discussion on colonial pasts. By getting in touch with scholars, artists and activists working on racism, discrimination and colonialism, I have created valuable networks for future collaborations.

More information on our event series can be found at https://www.uni-konstanz.de/zukunftskolleg/events/event-series-racism-in-academia/.

SUSTAINABILITY STATEMENT →

Depending on the research area and focus, some research projects will encompass substantive aspects of sustainability to a larger extent than others. While small contributions in practice can be made, for instance, by considering the amount of one's own research-related travel, there should also be a push towards more institutional responsibility regarding climate change and joint action against big polluters.

Sociality and evolution



Why and how do closely related species create different societies and how do these behavioural traits influence evolutionary trajectories? While the role of ecology in genetic differentiation and speciation is well understood, the broader impacts of behavioural differences in diversification processes have been neglected. I am developing a framework to identify the factors and processes that link behavioural traits with genomic evolution and diversification processes.

The key questions are: I. Which data and analyses are needed to efficiently describe diverse social systems in a quantitative way? II. Do these descriptors consistently correlate with measures of genetic structure and diversity across taxa? III. Is genetic structure and diversity a predictor of diversification and species richness? IV. Do certain behavioural traits impact diversification patterns on a macroevolutionary scale?

To achieve this, I combine meta-analyzes across a diverse set of animals with case studies, for which behavioural and genomic data are collected in wild populations, for example in baboons, bats, gazelles and guineafowl.

Gisela Kopp

Research Fellow since 03/2018
Department of Biology

The origin of Egyptian baboon mummies revealed by ancient DNA analysis

As part of their cultic activity, ancient Egyptians mummified many different kinds of animals. The number of animal mummies found in excavations surpasses the number of human mummies by several millions. Votive mummies dedicated to one of the Egyptian deities form the majority of animal mummies: Each god and goddess had at least one animal that was his or her totem. Baboons were associated with the god Thoth, god of wisdom and writing. Statues of Thoth closely resemble hamadryas baboons (Papio hamadryas) due to their sharply defined shoulder cape.

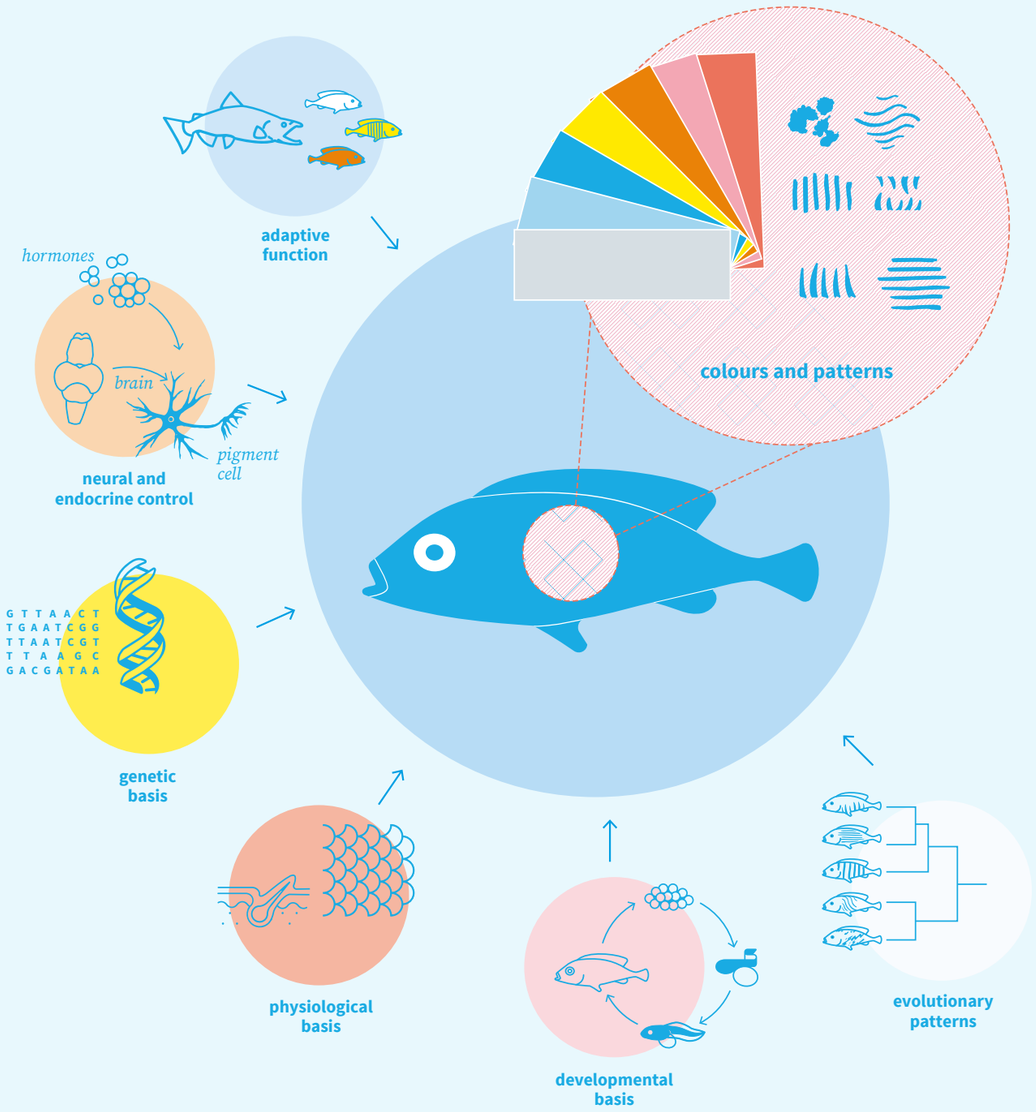
Baboon mummies have been found in large numbers at excavations in Tuna el-Gebel, North Saqqara and Thebes. The distribution of baboons as we observe it today does not include Egypt, and it is unclear if baboons ever naturally occurred there. It has been hypothesized that ancient Egyptians imported baboons from the land of Punt during the reign of Queen Hatshepsut. However, the location of Punt is heavily debated and one of the big mysteries in Egyptology.

Baboon mummies have mainly been investigated morphologically, but these data do not exhibit enough geographic variation to provide insights into the fine-scale origin of the individuals. Stable isotope analysis suggests that hamadryas baboons were imported from the region of eastern Somalia, Eritrea and Ethiopia. However, this method is not capable of pinpointing the geographic location of origin more precisely.

In this study, we analyzed ancient DNA recovered from baboon mummies using a capture-enrichment approach and compared it to the geographic distribution of genetic diversity of baboons in Northeastern Africa, reconstructed from museum specimens. We pinpoint the geographic origin of a baboon mummy from the “Valley of the Apes”, dating to the Late Pharaonic Period, precisely to the Red Sea coast of northern Somalia, Ethiopia and Sudan. This provides new evidence for the location of Punt in this region.

Grathwol F, Hume B, Roos C, Zinner D, Ottoni C, Van Neer W, Dominy N, Kopp GH (in prep.) Baboons in Ancient Egypt: Geographic origin of baboon mummies as revealed by ancient DNA analysis

The genetics of colouration



Colouration is an important and fascinating feature in the biology of an organism. Animals use colouration and colour patterns for communication, recognition and camouflage. But how are such complex patterns as the stripes of a zebra, the spots on a butterfly wing or the iridescent colour of coral reef fishes generated?
In my work, I study a particularly diverse and colourful family of fish, the cichlids. We investigate how colour patterns in these tropical fish form during the development.
We study what parts of the genetic code define colouration and colour patterns and we ask how changes in this genetic code result in the diversity of differences that we see between species.

Claudius Kratochwil

Fellow from 09/2013 until 13/2020
Department of Biology

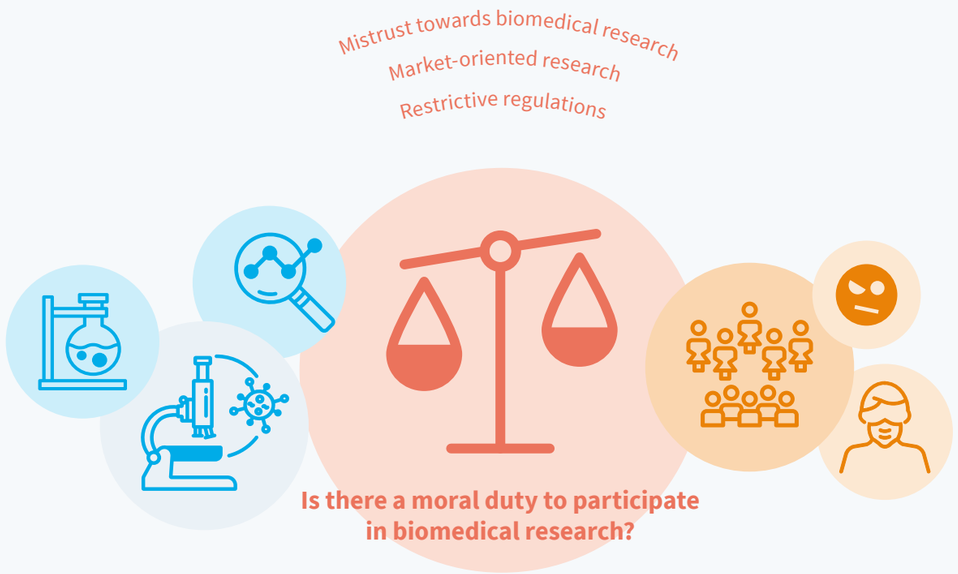
How species (genetically) become species

We find a remarkable number of species on our planet. The question of how species form already preoccupied Darwin when he wrote “On the Origin of Species” more than 160 years ago. The formation of new species, also referred to as speciation, has to be understood as a process. Over time, populations can become so distinct that they do not interbreed anymore, or do not produce any or any fertile offspring. Today, in contrast to Darwin’s times, we can look at what is happening at genomic level. Such genomic information can provide clear insights into how different populations are and also help us to look into the “past”, the evolutionary history of populations and species. Together with co-first authors Andreas Kautt and Alexander Nater and many other scientists at the laboratory of lead author Professor Axel Meyer, we studied what genomic factors influence whether species form or not. We studied this process in fish species of Nicaraguan crater lakes. Here, Midas cichlid fishes have independently colonized several isolated crater lakes. In some of them, they formed species (within only a few thousand years), in others they did not. Our work, based on over 450 genomes and published in Nature last autumn (Kautt et al., 2020), suggests that the traits (characteristics) that started to separate these populations (and that today form species) matter. Traits such as body shape or jaws and teeth that are controlled by many genes in the genome (so-called polygenic traits) might promote the formation of species, while colour, for example, which in these fish is controlled by a single gene, does not. Our work therefore delivers insights into a so far underestimated factor that affects whether speciation occurs or not.

SUSTAINABILITY STATEMENT →

In my work, I study the diversity of animal species, which is, in itself, greatly affected by the environmental impact of population growth, destruction of habitats, overfishing and climate change or, in other words, the lack of sustainability. I mainly study fish from East Africa that come from the Great Lakes Malawi and Victoria and constitute textbook examples for the formation of species and the process of diversification. The fish fauna of Lake Victoria, including its approximately 500 endemic cichlid fish species, has greatly suffered in the last decades: a case study that has been outstandingly documented by Tijs Goldschmidt in his book “Darwin’s Dreampond — Drama in Lake Victoria”. The ecology of the lake and its inhabitants have been and are greatly threatened by water pollution and especially also by the introduction of invasive species such as the water hyacinth and the Nile perch, a large predatory fish that was introduced for fishing but diminished much of the endemic fauna. Lake Victoria has even been referred to as the “most dramatic example of human-caused extinctions within an ecosystem” (Fiedler and Kareiva, 1998). Of course, as a scientist studying these remarkable fish, these drastic extinction events and destruction of ecosystems trouble me deeply. I hope that an increasing awareness can help to raise support for tackling these environmental issues and for promoting sustainability in the next decades in order to allow these ‘dreamponds’ to recover their original beauty and natural diversity.

Biomedical research involving human subjects. Is there a duty to participate?



Several pitfalls hinder the advance of biomedical human research: the existing mistrust towards it, the fact that there is business involved and restrictive regulations impeding the participation of certain groups labelled as 'vulnerable', among others. Should the performance of biomedical research ideally aim to improve the quality of life of society as a whole, could it be characterized as a public good? Are non-participants free-riders? Or do monetary contributions amount to doing our fair share? At the same time, socio-economic factors determine opportunities for benefiting from the outcomes of such scientific activity. Accordingly, it is necessary to explore theories of justice in order to strike a fair balance between individual autonomy and due contribution to societal welfare.

Noelia Martínez Doallo

Postdoctoral Fellow since 05/2021
Department of Law

Biomedical research, burdensharing and societal welfare

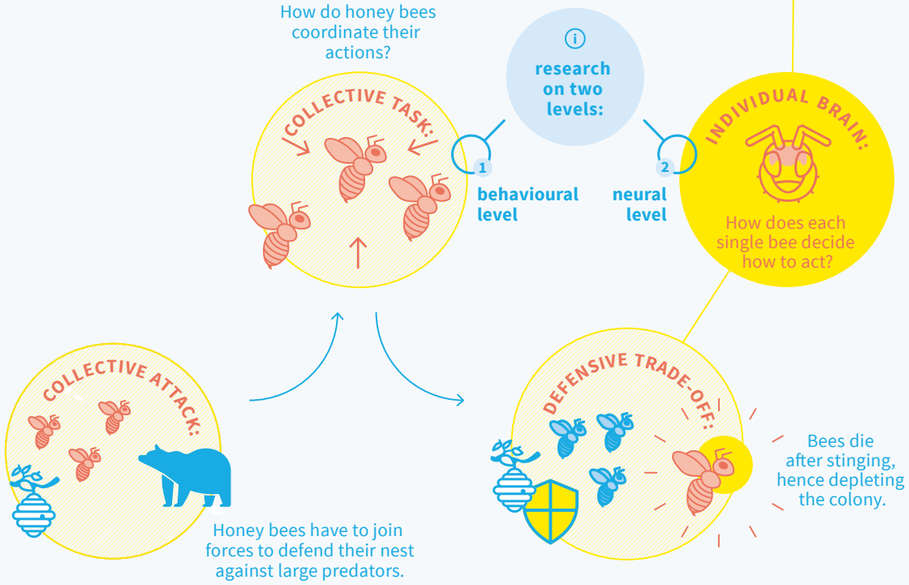
After being accepted as a Postdoctoral Fellow, I was finally able to join the Zukunftskolleg community on 1 May 2021. I am now starting my postdoctoral project, in which I intend to look into the possibility of articulating a moral duty to participate in biomedical research projects as a research subject. In this first stage, I am primarily focusing on the nature and status of the activity of biomedical research in order to attempt to define it as a public good. In addition, and within theories of justice, I am exploring different arguments to substantiate such a moral duty. For this purpose, I consider the "principle of mutual restriction" (H.L.A. Hart) and the "principle of fairness" (J. Rawls) to be a good starting point.

My project is essentially interdisciplinary, since it merges bioethics, political philosophy, law and biomedical sciences. The ultimate aim is to establish a durable line of communication between these and possibly other fields of knowledge and to strengthen the European bioethics landscape through the study of undeniably contested issues that demand a minimum level of public concern and agreement. Furthermore, I have recently published a book entitled "The Patient's Right to Informed Consent. A Fundamental Rights-based Approach" that partially encompasses the outcomes of my doctoral research. As it is written in Spanish, I am preparing a paper to present its main findings to the English-speaking world.

SUSTAINABILITY STATEMENT →

Sustainability is undoubtedly one of the major concerns of our times, and each of us must address it in one way or another. Within academia, and regardless of specific projects and topics, there is still a lot to do. Overall, the issue demands a broad approach: from resource management to deployment of professionals and workers.
In my opinion, sustainability should be understood as more than the classical "reduce, reuse and recycle", as it is clear that environmentalism falls short of solutions to our current problems. Sustainability has to be imbedded in our culture and also embrace future perspectives regarding employment for the next generations. It seems clear that we are witnessing a turning point. Our system, comfortable until now, is failing. Sustainability is not a business, but a serious environmental and social problem that should be addressed from a multilevel perspective: Cultural bonds and narratives should be strengthened, creating an environment of belonging to a certain territory we have to take care of; additionally, employment prospects should be visible, real and maintainable in order to rescue lost generations, whose sole perspective is a precarious lifestyle within consumerism. New models must therefore be proposed, and the reconstruction of the social bond should be the beginning of deep and real change.

Individual brains, collective task: Social regulation of stinging behaviour in honeybees



A vast amount of resources is concentrated within a bee nest, from the pollen and honey to the brood. Because of this, bees have to defend their colony against many predators, some of them a million times bigger than the bees themselves. To deter such enemies, honeybees have to join forces in a collective attack, during which they make use of their painful sting. However, in doing so, the bees give their lives. The aim of my project is to study this interesting paradox: How do honeybees coordinate their actions to achieve an efficient defence of the nest without sacrificing too many individuals? I would like to answer this question at the behavioural level, as well as at the neural level. Thus, my second question is: How is the decision whether to contribute to nest defence taken within the brain of each bee?

Morgane Nouvian

Research Fellow since 04/2019
Department of Biology

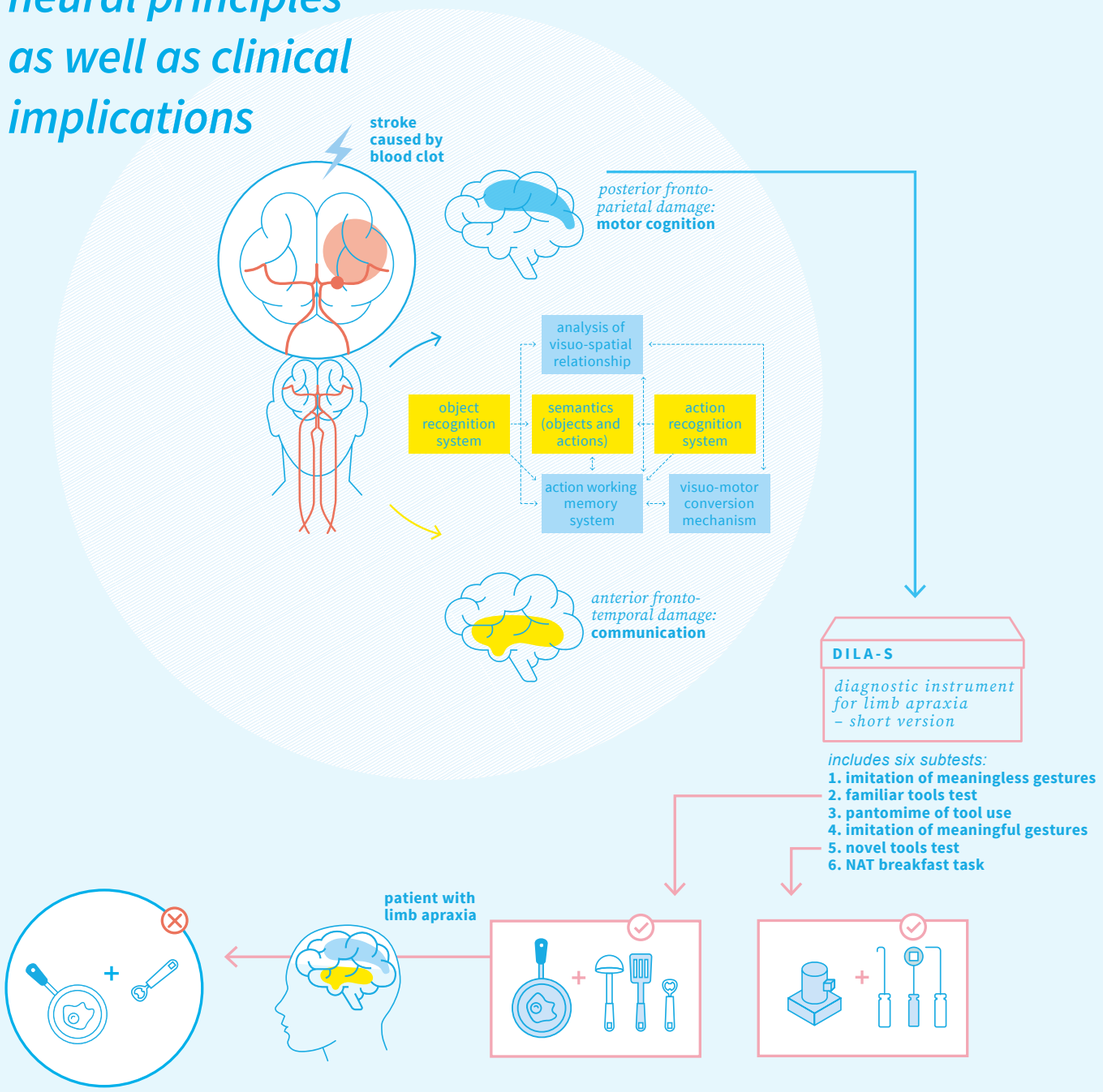
Alarm pheromone communication during honeybee colony defence

Honeybees need to recruit a large number of defenders in order to fight off predators. They do so through an alarm pheromone located directly on their stinger, which signals the presence of a threat to other colony members. In a paper published this year, my collaborators and I explored in detail how honeybees make use of alarm pheromone concentration (and not only its presence/absence) to assess a defensive situation and decide whether to sting or not. First, we showed experimentally that bees become more likely to sting as alarm pheromone concentration increases, but only up to a certain point. At very high concentrations, their aggressiveness returns to baseline. What could be the adaptive value of such a dose-response pattern? To answer this question, we had to bridge the gap between individual responses and the collective outcome they produce, since the evolutionary unit is the whole colony in the case of honeybees. We therefore developed and utilized a computational model that allows populations of agents (in our case bees) to "develop" a defensive strategy and thus select the best individual response pattern under given environmental conditions. Through this approach, we were able to identify which environmental factors (for example predation rate, or predator resistance to stings) likely shaped the alarm pheromone response observed experimentally.

SUSTAINABILITY STATEMENT →

As a biologist, I have long been concerned about the current threats to our environment. Although my research project does not directly focus on species conservation or sustainable development, it does provide information on the ecology of honeybees. Bees, as we all know, are key pollinators which fulfil an essential role in both wild and agricultural ecosystems. In recent years, bee populations have been declining to the extent that the main job of professional beekeepers has shifted from "honey production" to "bee care". There is some evidence that one of the many factors explaining this decline is the strong artificial selection we have imposed on honeybees: We have especially favoured traits such as honey production, gentleness and low swarming frequency to make domestication easier, while disregarding others. This has left bee populations vulnerable to recent environmental changes, such as the spread of invasive predators and parasites. Through my research, I hope to contribute to raising awareness and interest for this wonderful animal. In addition, I hope that a better understanding of the defensive behaviour of honeybees will provide tools to manage it and perhaps reduce selection on this important trait.

Motor cognition: Behavioural and neural principles as well as clinical implications



The central aspect in our research is motor cognition: How we select, plan and produce movements and actions, especially when these involve tools or objects. Our ageing society and ageing-related diseases such as stroke confront us with the challenge of diagnosing and rehabilitating the resulting deficient behaviours.
We develop diagnostic and therapeutic approaches, and we aim to contribute to a better understanding of the underlying mechanisms of motor-cognitive abilities.
Major questions our group addresses are: How do we manage to skilfully use tools (project: Limb Apraxia)? How do we decide whether a cup of coffee is reachable (project: Affordance Perception)? How do we plan simple actions efficiently (project: Alternate Routes)? And what regions in the brain are essential for these daily functions?
We link pragmatic clinical needs inspired by our collaborative work with local clinics (i.e. Kliniken Schmieder) with fundamental theoretical questions developed in the laboratory context at the university (i.e. Zukunftskolleg, Department of Psychology), an approach which capitalizes on valuable synergies.

Jennifer Randerath

Research Fellow since 07/2015
Department of Psychology

From fundamental research to clinical applications

In the past years, my group has developed and implemented diagnostic instruments and therapy approaches for patients with motor-cognitive disorders after stroke. Based on the literature and our own results, I have developed a simplified neuroanatomical visualization of regions in the left brain that when damaged are typically associated with deficiencies in specific tests, such as impaired interaction with tools. (See figure on the left.)

Neurologic patients seeking ambulatory support for treating co-occurring mental disorders are clearly underserved with respect to experts covering both disciplines: clinical neuropsychology and psychotherapy. To help close this gap, our intersectoral project ‘Cognitive Neuro-Psychotherapy’ aimed at setting a regional impulse. We implemented neuropsychological testing and training in a practice connected to the local psychotherapy vocational institute (apb). Theoretical workshops were offered as webinars for psychotherapy trainees at the apb and for psychology students at the University of Konstanz. The workshops developed were accredited as part of the advanced training by the German Society for Neuropsychology.

Importantly, during the pandemic, the group members learned to accept being significantly restricted in their activities, while making use of available options to continue scientific efforts. We transferred seminars into webinars, participated in online conferences, implemented important hygiene measures, and in the process the team was slowly able to restart participant recruitment for our studies. Overall, the group members managed to demonstrate an important attribute in these challenging times: resilience.

Eyes are highly conspicuous.

How do different eye-masking patterns affect predator recognition?

A test of eye camouflage in active predators using jumping spiders

Eyes are highly conspicuous. They can convey various information, for example about the position of an animal's head or where an animal is looking. Exploiting said information, many species have evolved exaggerated eye spots or "fake eyes", such as those commonly found on butterfly wings, to deter predators. Equally widespread across the animal kingdom are distinct facial markings such as dark stripes which seemingly conceal or disrupt the eyes. To date, research in this area has focused on the function of eye camouflage from an anti-predator perspective. However, avoiding detection is not only beneficial for prey. Especially for actively foraging predators, evading visual detection by their prey offers strong selective advantages. Numerous species of jumping spiders exhibit striking eye-masking patterns and have been shown to use eyes as an important cue in the recognition of other (predatory) jumping spiders. Being both highly visual prey and predators with rich cognitive abilities, these spiders offer a unique dual-model system. Using common species of jumping spiders, I am going to 1) test how different eye-masking patterns influence predator recognition, 2) test the effect of eye masks on foraging success and 3) document the developmental onset of eye mask expression in different species. I will use 3D printing technology as well as novel 3D video-tracking methods to quantify natural behaviour in these charismatic animals.

Daniela Rößler

Postdoctoral Fellow since 06/2021
Department of Biology

All eyes on jumping spiders!

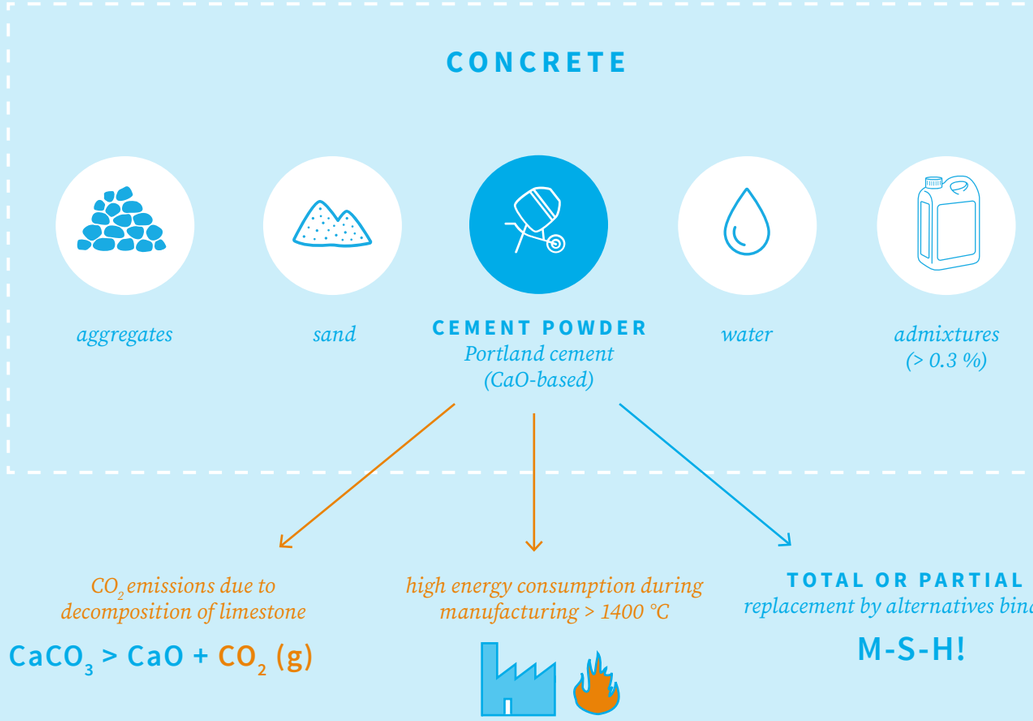
For me, this year's highlight was the approval of my 2-year Postdoctoral Fellowship at the Zukunftskolleg. I am really excited about studying the function of facial patterns in predator-prey interactions in a highly charismatic animal group: jumping spiders!
To be successful in capturing their prey, predators moving actively towards it must make sure that they are not detected or recognized. However, when the visual system of the prey is just as good as that of the predator, things become tricky. Jumping spiders are such active predators and regularly prey on other jumping spiders. My previous research has demonstrated that jumping spiders are able to recognize and flee from predatory jumping spiders. One of the important features they use to recognize a predator are the conspicuous frontal eyes.
Many jumping spiders, including local species, have intriguing facial patterns, such as dark stripes across the eyes or bright colours adjacent to their faces, potentially concealing or distracting from their eyes. In the next two years, I will investigate whether these patterns actually mask their otherwise highly conspicuous eyes, thereby delaying or hindering recognition. Using modern video-tracking approaches to quantify behaviour as well as high-resolution 3D prints of jumping spiders, I will explore the function of eye camouflage.

SUSTAINABILITY STATEMENT →

When the pandemic hit in 2020, our globalized world suddenly shrunk to just our immediate neighbourhood. Many of us had to work from home, and months that would usually include extended travel and field work had to be spent differently. For me, this time has highlighted not only how possible it is to do meaningful (behavioural ecology) work literally in our backyards but also how little we know about even the more common creatures in them. This experience has largely driven my research proposal, which centres entirely on local jumping spider species, increasing both the accessibility as well as the sustainability of my project.

Beyond that, I will ensure that I always bring my own coffee mug and a reusable bowl in order to produce less waste. Most importantly, however, I will reflect on and actively work towards equity, diversity and inclusion among collaborators, students and staff involved in my projects.

Designed organic additives to tailor M-S-H nanostructure



Cement industry emissions represent as much as 8% of global CO_2 emissions, and as a consequence the International Energy Agency has proposed some strategies aimed at reducing them by 24% by 2050. However, this is not an easy target and would require the full cooperation of all the parties involved (i.e. manufacturers, scientists, users, society and governments). The development of eco-sustainable cements has been a top priority during the last decades for the international scientific community. In this context, magnesium silicate hydrate binders ($(MgO)_x$–SiO_2–$(H_2O)_y$, M-S-H) have attracted considerable attention due to their analogy to calcium silicate hydrate ($(CaO)_x$–SiO_2–$(H_2O)_y$, CS-H), which is the binding phase in Portland cement (PC). MgO-based cements are produced by hydration of MgO in the presence of silica to generate M–S–H. MgO can be produced by burning Mg-silicates or Mg-carbonates at considerably lower temperatures than CaO. This would substantially reduce CO_2 emissions compared with PC. Nevertheless, studies of M-S-H cement pastes evidence significant disadvantages compared with PC (e.g. high water demand, long setting times and low compressive strengths). It has been suggested that the different mechanical behaviour results from the differences in their nanostructure. In this regard, developing organic additives with specific interactions with M-S-H particles could be a way to tune the nanostructure of M-S-H binders and/or reduce the high water demand by stabilizing the particles against aggregation. We envisage that the fundamental problems of M-S-H described above could be solved by designing additives with specific interactions with M-S-H particles. Valuable insights regarding M-S-H crystallization and how the additives designed affect this process could certainly be used to tailor its nanostructure and enhance its fundamental properties.

Cristina Ruiz Agudo

Research Fellow since 06/2020
Department of Chemistry

M-S-H cement for immobilization of heavy metal waste

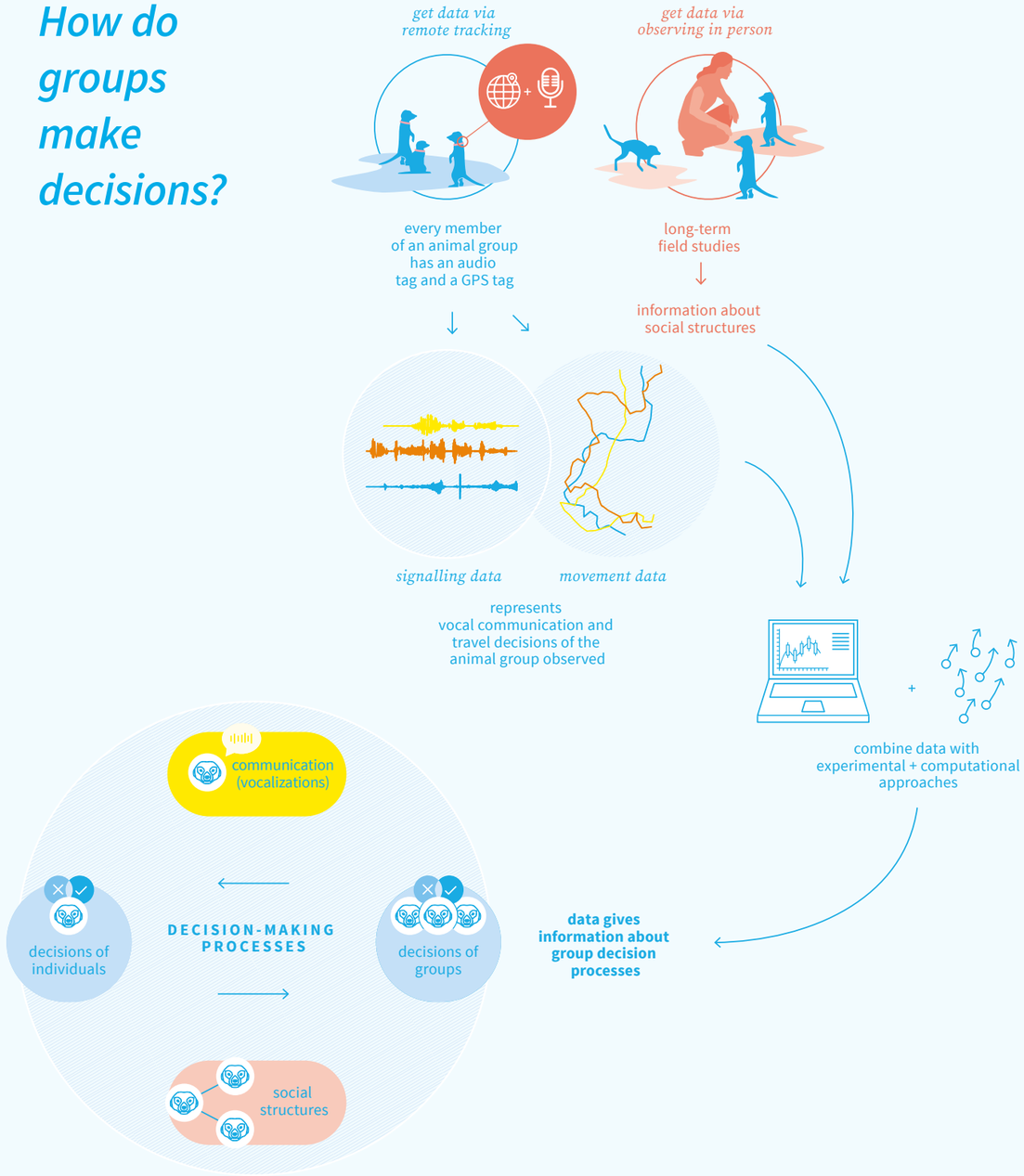
In the last academic year, my research has mainly focused on investigating the potential use of M-S-H as an immobilization matrix for aqueous heavy metal waste. The results obtained showed the large capacity of M-S-H for the immobilization of cation metals at the early hydration stages and were presented in a publication entitled “Immobilization of (aqueous) metals in low pH M-S-H cement” in the special issue “Sustainable Construction Materials” of Applied Sciences.

Stabilization of wastes in cement is an established method for the safe storage of (heavy) metal wastes originating from many industrial processes. PC with a pH~12.5 is used for this purpose, thus only wastes that are insoluble under these conditions can be safely immobilized. As an alternative cement binder to PC, M-S-H has already attracted the attention of the scientific community due to the more sustainable manufacturing process. Further, resulting from its chemical composition, its pore solution possesses a lower pH compared to PC, making it a favourable candidate for the storage of heavy metal waste with low solubility at a pH below 11. M-S-H has not been considered as a host material due to the lack of insights regarding M-S-H crystallization, especially in presence of “foreign” ions (metals). The first insights regarding the crystallization mechanism and the material obtained have been crucial for the initial evaluation of M-S-H as a waste immobilization material.

SUSTAINABILITY STATEMENT →

Controlling crystallization by using additives is central for several scientific and industrial processes. Obtaining insights into the stages involved in the formation of solid crystalline materials from their basic building units and identifying how this process can be controlled are essential for engineering advanced sustainable materials. My Zukunftskolleg research project is motivated by the urgent need to reduce the CO_2 emissions associated with the cement industry. Nearly four billion tons of cement are manufactured every year, causing major environmental impacts such as high CO_2 emissions (~8% of global anthropogenic CO_2). The development of eco-sustainable cements is therefore a top priority for the scientific community. One of the most promising strategies is the partial replacement of conventional Portland cement (PC) by alternative lower carbon binders. In this respect, magnesium-silicate-hydrate binders ($(MgO)_x$–SiO_2–$(H_2O)_y$, M-S-H) represent a promising alternative. Nevertheless, investigations of M-S-H cement paste evidence significant disadvantages compared with Portland cement. My approach consists of directing M-S-H crystallization and controlling its nanostructure to produce a competitive and more sustainable alternative to PC.

How do groups make decisions?



How do groups come to consensus on collective decisions, such as where to travel? In social groups where members interact repeatedly with one another, these decisions are often strongly affected by the social relationships among group members and the ways in which they communicate with one another. I study how such social structures and communication shape group decision-making processes across multiple species of social mammals, including meerkats, coatis and spotted hyenas. In particular, I am interested in how these collective decisions are mediated by vocal communication. My collaborators and I use GPS and audio tags to get a detailed picture of where all group members go and what vocalizations they produce as they are interacting. We then combine these data with experimental and computational approaches to explore how communication and social relationships affect the decisions individuals make and, ultimately, how these decisions scale up to determine the outcomes of collective decisions for entire social groups.

Ariana Strandburg-Peshkin

Research Fellow since 03/2019
Department of Biology

What drives the formation and dissolution of animal groups?

Social life is a dynamic affair. In human societies, we often come together with others to form temporary groups, with group members later parting ways and joining new groups. Animal societies also often show these types of changes in group membership in a phenomenon known as fission-fusion dynamics. A benefit of such merging and splitting over time is that it allows animals to control their social environment, for instance keeping together in small groups to avoid feeding competition but banding together in large groups to face common enemies. But for animals distributed across a vast landscape, how do separated individuals find one another to form groups? In some instances, features of the landscape might serve as "meeting points" where animals can reliably find social partners. Using data on the movements of spotted hyenas, we found that communal dens serve as social hubs where the majority of meet-ups occur, and can explain many of the observed patterns of fission-fusion dynamics in this species (Strauss et al. in prep.). However, using similar data on domesticated sheep flocks, we found that group splits and merges occurred relatively uniformly in space (Libera et al. in prep.). These contrasting results suggest that spatial structure might be a crucial driver of social interaction patterns in some species yet play hardly any role at all in others.

References:

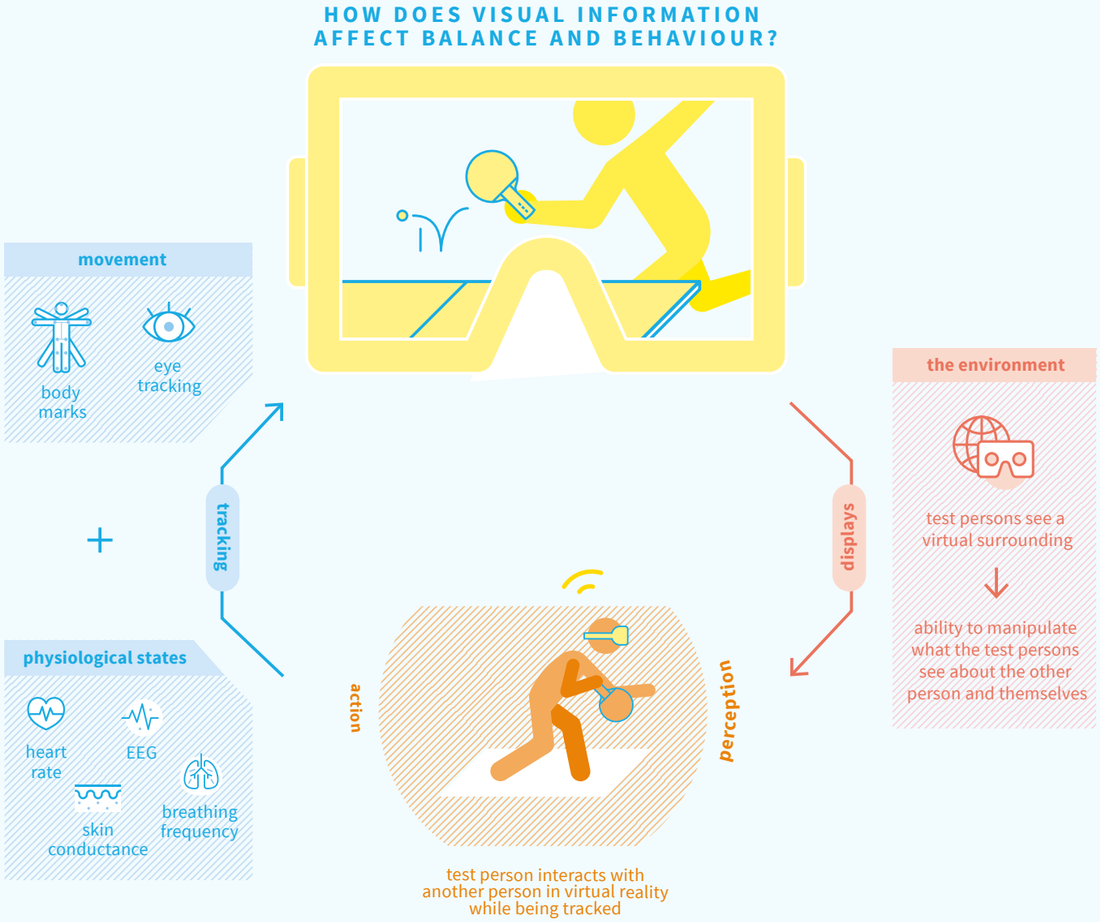
Strauss, E., Jensen, F.H., Gersick, A.S., Thomas, M., Holekamp, K.E. & Strandburg-Peshkin, A. Fission-fusion dynamics and social associations are structured by daily ranging and den usage in spotted hyenas. In prep.

Libera, K.D., Strandburg-Peshkin, A. & Leu, S. Fission-fusion events in social groups: the challenge of identifying group membership from continuous GPS data. In prep.

SUSTAINABILITY STATEMENT →

The global pandemic has had a dramatic impact on travel patterns throughout the world, and scientific researchers have been no exception. For example, all the conferences in which I participated this year were virtual. In addition to being better for the planet, virtual conferences can give a broader group of people the opportunity to participate. However, they also have drawbacks in terms of missed opportunities for informal interactions which may be important for building scientific networks and collaboration. In addition, we have unfortunately been forced to suspend most of our international field work over the past 18 months, which while resulting in less air travel has also meant that we have not gained insights into animal behaviour that are relevant for behavioural ecology and conservation. All these limitations have forced a reappraisal of which scientific activities are truly necessary and whether fewer, longer trips might accomplish the same goals.

Using virtual reality to understand social interaction



Humans are social beings, and they coordinate their own actions with others all the time, for instance when dancing salsa, carrying a sofa together, handing over a cup of coffee to another person or playing table tennis. All these joint activities require an enormous amount of interpersonal coordination.

How do humans accomplish this remarkable feat? And how can we study these everyday social interactions in the laboratory? In order to tackle both questions, we develop novel virtual reality paradigms which allow us to study real-life social interactions under close-to-natural and controlled experimental conditions. We immerse pairs or groups of people in computer-generated synthetic worlds and ask them to perform everyday social interactions such as playing table tennis or carrying an object together. Virtual reality allows us to precisely manipulate what each person sees about the other person and about themselves. This allows us, for example, to investigate how visual information affects behaviour in social interactions. Virtual reality also enables us to investigate other factors relevant for social interactions such as body perception, social bias, stereotypes and affective states.

Stephan Streuber

Research Fellow since 06/2019
Department of Computer and Information Science

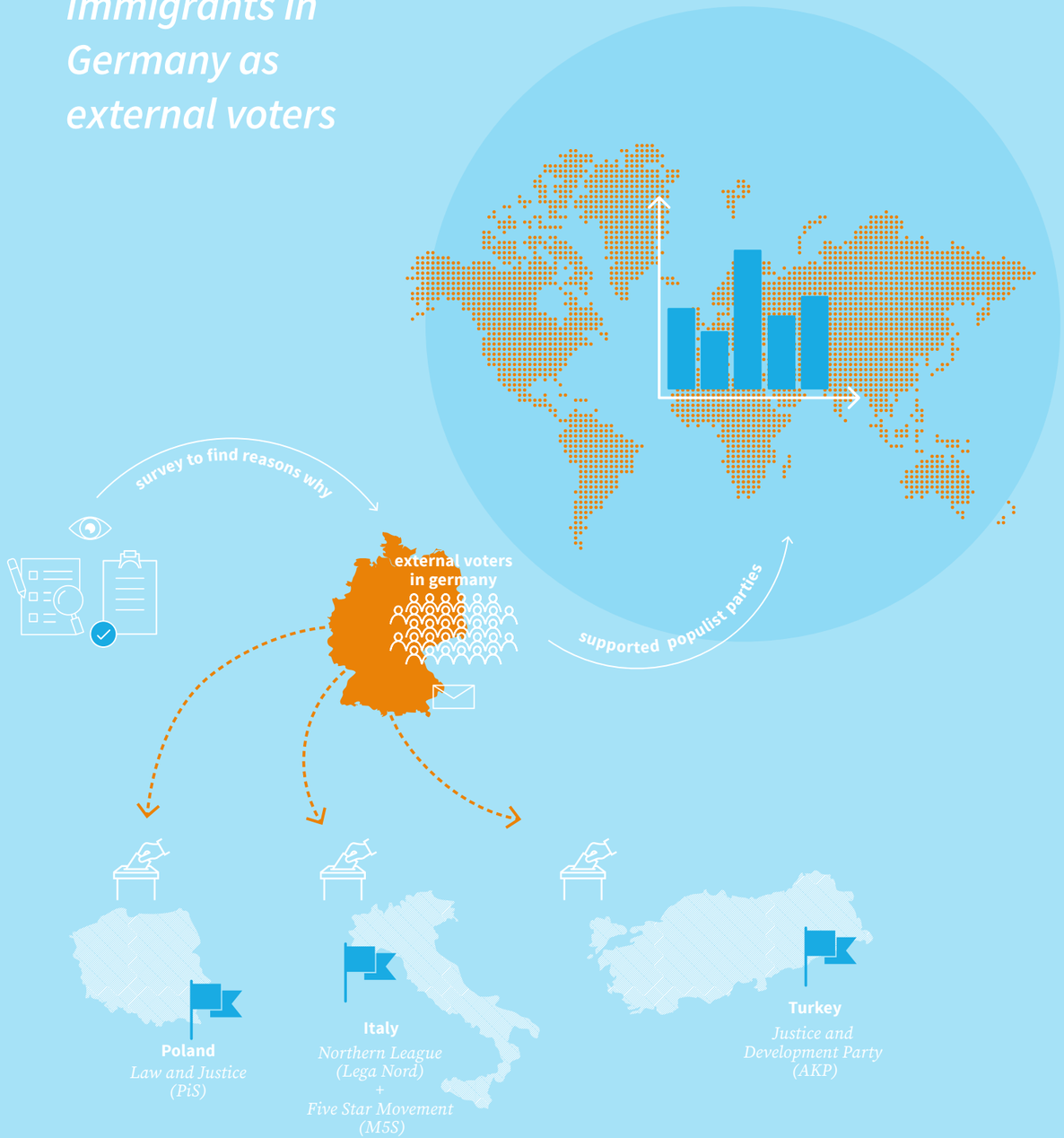
Augmented visual orientation cues to improve balance and prevent falls

Human balance is a fundamental skill needed to master everyday activities such as walking, standing or sports. During these activities, the nervous system needs to control the body's centre of mass by integrating visual, proprioceptive and vestibular information from the different senses. Age and various pathologies can make a person's balance control deteriorate, leading to increased risk of fall, injury and even death. The goal of the current project is to investigate balance control mechanisms and to develop an augmented reality device that prevents falls in the elderly population and patients with visual impairments. In the first stage of the project, we conducted multiple experiments to validate virtual reality as a tool to study and enhance balance control and published the study as a journal article. We also started developing a first prototype of the augmented reality device and submitted a patent application. Furthermore, we obtained funding and recruited a doctoral candidate to further develop and validate a first prototype. This project – in which I am collaborating with Lorenz Assländer (Sport Science) – was initially funded through the Zukunftskolleg Interdisciplinary Collaborative Projects Programme.

SUSTAINABILITY STATEMENT →

Environmental sustainability can be supported in academia by utilizing technology for long-distance collaboration or conferences instead of holding face-to-face meetings and conventions. There is, however, an urgent need to further develop new technologies that support online meetings. Efficient online meetings could potentially reduce the need for air travel in academia. In order to increase the usability and user acceptance of these tools, it is important to understand the psychological impacts of online meeting tools on users (e.g. Zoom fatigue effect). In this context, we conducted an experiment to investigate whether virtual reality is a better tool for online collaboration and meetings in comparison to video conferencing. Preliminary results show that virtual reality is a better tool for online collaboration because it provides a spatial presence and non-verbal communication cues. In the future, I am planning to actively use virtual reality as an additional tool for online collaboration. This will help me and my international collaborators to reduce air travel, while allowing us to continue working together.

Immigrants in Germany as external voters



My research investigates two contemporary political developments: the spread of external voting, or voting in national elections from abroad, and the rise of populism. Not only have these two phenomena drawn the attention of the public recently, but some immigrant groups are also particularly inclined to vote for populist parties in their countries of origin. This raises the following question: How can populist parties, with their anti-European and anti-immigration attitudes and opposition to liberal democratic principles, find support among immigrants who reside in a Western European democracy?
In order to answer this question, I examine the party preferences of people with Turkish, Polish and Italian backgrounds living in Germany when voting in their countries of origin, and try to identify links between their views and their experience as immigrants.

Nihan Toprakkiran

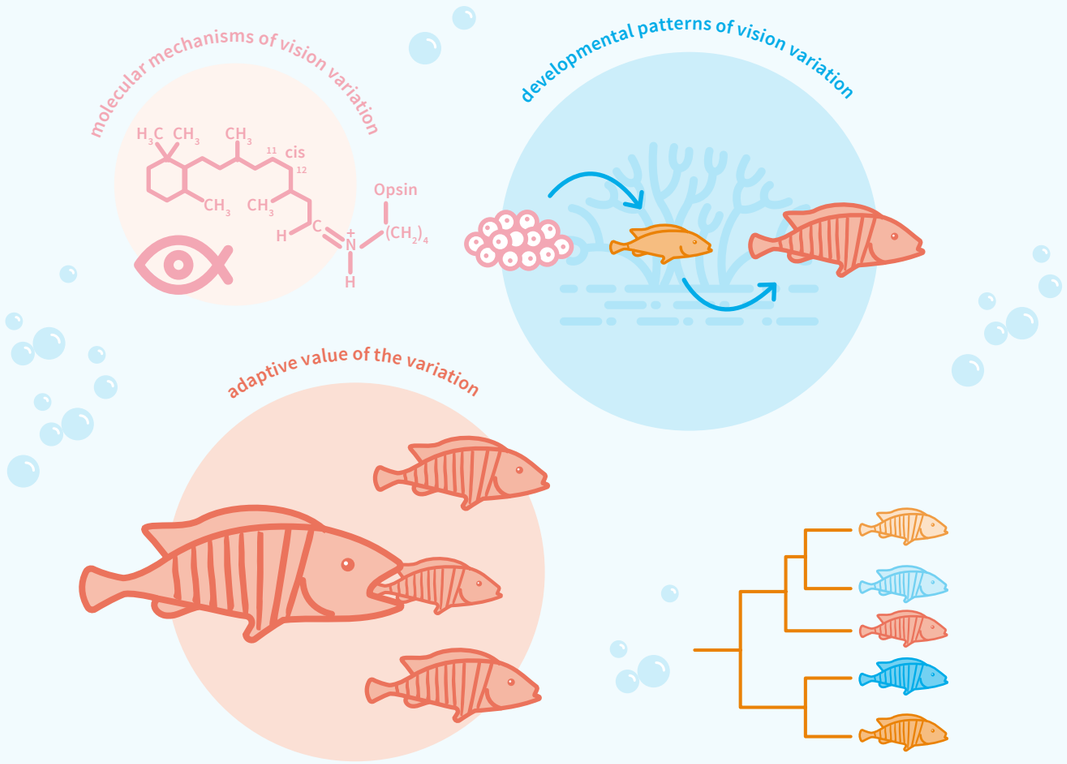
Postdoctoral Fellow since 04/2019
Department of Politics and Public Administration

Survey “Zuhause in zwei Ländern?” completed

My biggest achievement this year has been completing a population survey under the circumstances of the pandemic! My survey focused on what determines the views of people with a Turkish, Polish or Italian migration background in Germany regarding the politics of their countries of origin. In total, I reached out to approximately 4,000 people from these backgrounds in four different cities (Berlin, Munich, Stuttgart and Duisburg), offering bilingual paper questionnaires as well as the option of taking part through an online platform. After I had received a good number of responses from each group, I was able to focus on data preparation and the compilation of my dataset. Since individual-level data about the political tendencies of immigrants in relation to their countries of origin are almost non-existent, it is very exciting to have this original dataset on this topic. A preliminary analysis of the data also shows promising results for explaining support for populist parties in different countries of origin. I am grateful to the Zukunftskolleg for giving me the possibility to engage in such a time-intensive data collection process at this early stage of my career, as I believe that the output from this project will be crucial for my further career development.

Seeing different colours is arguably one of the most outstanding and intriguing aspects of our sensory capabilities.

The four investigation levels of research



Seeing different colours is arguably one of the most outstanding and intriguing aspects of our sensory capabilities. It is thus fascinating to know that the spectral sensitivity of fishes, the ability to perceive and discriminate colours, might well surpass ours. Fishes' spectral sensitivity is amazingly diverse, including variation across species, within species across environments, and within individuals across life stages. Why do fishes need such a diverse visual system? Understanding the evolution of this diversity requires a multidisciplinary research approach.

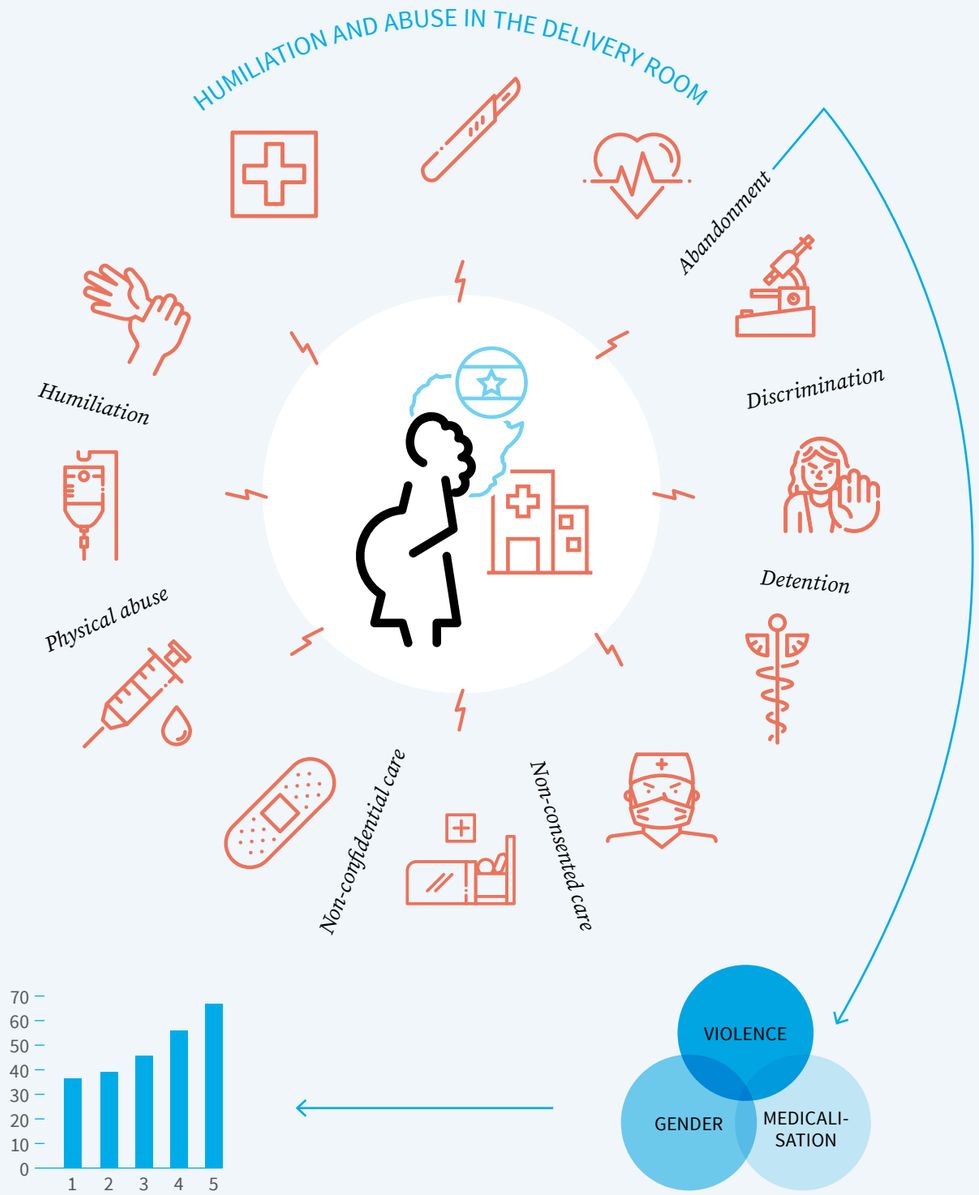
My research focuses on the beautiful and diverse cichlid fish, which have up to seven different visual pigments with sensitivities at different parts of the visible light spectrum (ultra-violet, violet, blue, blue-green, green, yellow-green and orange-red). Cichlid fish mix and match these pigments, resulting in an amazing diversity of visual sensitivities. We study the selection pressures that favour different combinations of visual pigments and the mechanistic processes responsible for producing such diversity.

Julián Torres Dowdall

Fellow since 08/2013
Department of Biology

What is a species?

It may come as a surprise that this is one of the most debated questions in biology, as anyone can tell that dogs and cats are different species. However, in some cases it is difficult to know whether two organisms belong to the same species or not. This is partially caused by the so-called "Species Problem", the fact that biologists differ in their conceptual definition of what a species is. More than 30 species concepts exist! One of the most popular is the Biological Species Concept, which defines a species as a group of organisms that can interbreed freely in nature but are unable to do so with other such groups. Its popularity is due to the fact that it makes biological sense, and it is practical to implement. But it has its own caveats. For example, when two groups of organisms inhabit the same place but do not interbreed, it is easy to define them as different species. However, if those two groups live in different places, it is more difficult to find out whether they could actually interbreed, and if they should be considered the same species or not. We obtained a grant from the German Research Foundation to tackle this question in a group of South American fishes. Even though some populations have been isolated for thousands of years and do not interbreed, they look very similar and are considered to be one species by some scientists but not by others. Combining whole genome sequencing with breeding experiments, we aim to determine at what level of genomic differentiation organisms fail to interbreed and can therefore be considered truly different species.



My research investigates the mistreatment and abuse of women by healthcare professionals during delivery in Ghana. Ghana is one of the countries in Africa where maternal mortality and morbidity remains a challenge to women's health. Many of these deaths are preventable through the provision of high-quality maternal and obstetric care. However, the absence of humane care during labour can cause trauma, health complications and reduce women's trust in healthcare personnel, and this could subsequently affect their willingness to use facility-based services for delivery. In my study, I investigate the link between women's experiences of obstetric violence and the low number of facility-based deliveries and the high maternal mortality rate in Ghana. How prevalent is the mistreatment and abuse of women during childbirth in Ghana? How do these experiences influence women's decisions to use obstetric services in Ghana? What factors predispose women to obstetric violence? From the findings, my collaborators and I will develop an obstetric violence reduction intervention which will be tested in selected hospitals in Ghana.

Abena Yalley

Postdoctoral Fellow since 09/2020
Department of Literature & Politics and Public Administration

Feminism across borders: exploring gender dynamics in multidisciplinary and transnational terrains

Receiving the Postdoctoral Fellowship at the Zukunftskolleg in September 2020 was one of the major strides in my academic career. Although my fellowship was delayed for several months due to the COVID-19 pandemic, it still presents great opportunities for research excellence. Of great importance to me was a collaborative research initiative with Professor Anke Hoeffler from the Department of Politics and Public Administration at the University of Konstanz. This collaboration has further extended my research project on obstetric violence into an elaborative, sustainable and interdisciplinary one. An interdisciplinary collaborative teaching project has also emerged out of this initiative. The project, which received funding from the Zukunftskolleg, examines the impact of pandemics and global health crises from public health, gender and psychological perspectives. Furthermore, I was invited by Professor Julia Leinweber of the Protestant University of Applied Sciences in Berlin and Dr Sigfridur Inga Karlsdottir of the University of Akureyri, Iceland, to lead the obstetric violence sub-group of the COST Action (European Cooperation in Science) "Perinatal Mental Health and Birth-Related Trauma". In the framework of COST, I presented a paper during its annual conference in late 2020 on obstetric violence in Ghana. I also joined the Africa COVID-19 research group financed by the International Development Research Centre (IDRC) and coordinated by the Association of African Universities (AAU). In this group, I particularly focus on the gendered impact of COVID-19 on research infrastructure in higher educational institutions in Africa. My article on "Gender, Masculinity and Policing: An analysis of police masculinized culture on policing domestic violence", published by Elsevier, was a great achievement. This publication led me into the media realm with several articles and media interviews.

SUSTAINABILITY STATEMENT →

As an African woman, my work has often been influenced by my background and key elements pertaining to my continent. Gender inequality and gender-based violence are endemic on my continent. Beyond this, the huge spike in domestic violence during the COVID-19 pandemic further unveiled how violence against women is a global issue. Gender equality is key to the achievement of the 17 sustainable development goals. My research project examines obstetric violence in Ghana. A major cause of obstetric violence is the pervasive androcentrism in the medical profession and the structural violence manifesting from gender inequalities in society. This makes it a gendered violence. My research therefore contributes to the third and fifth sustainable development goals – reducing the maternal and neonatal mortality ratio and promoting gender equality by eliminating all forms of violence against women. Beyond this, improved health and empowerment of women will eventually enhance women's livelihoods and reduce poverty among women, who make up the majority of the world's poor, thus contributing to the sustainable development goal of an end to poverty.

Jour Fixe

The Jour fixe is the weekly interdisciplinary session for fellows from all departments. The meeting focuses on presentations of new fellows and new projects as well as results of current projects, the introduction of new junior research groups as well as topical discussions and debates concerning higher education policies. In the past academic year, the Zukunftskolleg successfully continued with the digital format and also introduced a hybrid Jour fixe format.

Winter term 2020/2021

3 November 2020
Welcome to the 2020/21 winter semester

10 November 2020
Tutti Frutti – Little Richard, Sex, Gender, and Transgression in America and Europe
→ Jacob Bloomfield, Postdoctoral Fellow, Dept. of Literature

17 November 2020
The Octopus: Implications for Cognitive Science and Philosophy
→ Sidney Carls-Diamante, Postdoctoral Fellow, Dept. of Philosophy

24 November 2020
Behaviour and Brain Dynamics in Zebrafish
→ Armin Bahl, Research Fellow, Dept. of Biology

1 December 2020
Abuse and humiliation in the delivery room: The prevalence and impact of obstetric violence in Ghana
→ Abena Yalley, Postdoctoral Fellow, Dept. of Literature & Politics and Public Administration

8 December 2020
Architectures of memory: Dealing with difficult pasts in urban space
→ Gruia Badescu, Research Fellow, Dept. of History and Sociology

15 December 2021
Naeem revisits Naeem et al. 1994: reading between the lines of a scientific paper
→ Hari Sridhar, Writer in Residence

12 January 2021
Open discussion on "Sustainability"

19 January 2021
Film screening in the framework of the *"Racism in Academia"* event series (see page 80/81)

26 January 2021
A psychological approach to international criminal justice. Improving decision-making in the Office of the Prosecutor at the International Criminal Court
→ CAT (Constructive Advanced Thinking) group: Anna Sagana (Maastricht), Gabriele Chlevickaite (Amsterdam), Dave van Toor (Bielefeld) and Nikolaos Aletras (Sheffield)

2 February 2021
Roundtable discussion in the framework of the *"Racism in Academia"* event series (see page 80/81)

9 February 2021
Assembly of Members
Election of new members to the Executive Committee

Summer term 2021

13 April 2021
Welcome to the 2021 summer semester & presentation of research data management and repository KonDATA → Central Office & Matthias Landwehr (KIM)

20 April 2021
Unravelling existential suffering and its relation to depression in older adults: EXIST-well in nursing homes
→ CAT (Constructive Advanced Thinking) group: Jessie Dezutter (KU Leuven), Daan Duppen (KU Leuven), Gørill Haugan (NTNU), Helena Larsson (Kristianstad University), Suvi-Maria Saarelainen (University of Eastern Finland)
Moderation: Jennifer Randerath

27 April 2021
Lightning talks and poster session ZUKOnnect Fellows
→ Afrasa Mulatu Urge, Giovanna Rodriguez-Garcia, Krizler Tanalgo, Josiah Taru, Vishwanath Varma

4 May 2021
Starting an ERC project: ultrafast scanning tunneling microscopy (UpTEMPO) → Daniele Brida, Associated Fellow, Dept. of Physics

Between Brexit and Indyref2: The Scottish Election 2021
→ Philip Rathgeb, Associated Fellow, Dept. of Politics and Public Administration

11 May 2021
Biomedical Research Involving Human Subjects. Is There a Duty to Participate?
→ Noelia Martínez Doallo, Postdoctoral Fellow, Dept. of Law

18 May 2021
Superconducting spintronics – a new paradigm shift towards energy-efficient computing
→ Angelo di Bernardo, Research Fellow, Dept. of Physics

25 May 2021
Video presentation in the framework of the *"Racism in Academia"* event series (see page 80/81)

1 June 2021
The Chemistry of Coffee
→ Klaus Boldt, Research Fellow, Dept. of Chemistry

8 June 2021
Reconstituting Publics through Remembering Transitions: Facilitating Critical Engagement with the 1980-90s on Local and Transnational Scales → CAT (Constructive Advanced Thinking) group: Ksenia Robbe (University of Groningen), Agnieszka Mrozik (Polish Academy of Sciences), Andrei Zavadski (HU Berlin) and Alexander Formozov (Dekabristen e. V.)

15 June 2021
Diversity Training in the framework of the *"Racism in Academia"* event series (see page 80/81)

22 June 2021
Military mobility and provincial demography in Moesia Inferior: Troesmis
→ Iulia Dumitrache, Research Visit Fellow, Dept. of History

The Collective Intentionality and Its Subject → Sergiu Sava, Research Visit Fellow, Dept. of Philosophy

6 July 2021
Migration, microalgae, mud, mats, and mucilages
→ Graham Underwood, Senior Fellow, Dept. of Biology

13 July 2021
Assembly of Members
Election of new members to the Executive Committee

27 July 2021
(extraordinary Jour fixe)
Collective Intentionality
→ Sergiu Sava, Research Visit Fellow, Dept. of Philosophy

The Jour fixe gives the fellows the possibility to discuss the progress of their work.

Discussions take place not only during the Jour fixe, but also in the Common Room.

The Zukunftskolleg is a place for people from different departments to meet and talk about their research.

The Jour fixe enables interdisciplinary exchange.

Facts and Figures

Constructive Advanced Thinking

New project ideas to tackle societal challenges funded by European network – Results of the 2020 Constructive Advanced Thinking (CAT) programme

The Constructive Advanced Thinking (CAT) initiative aims to foster international networks of excellent early career researchers committed to developing new ideas in order to understand and tackle current or emerging societal challenges. CAT was incubated within NetIAS in 2019 and is supported by 12 European Institutes for Advanced Study (IAS). The programme provides travel funds for international and interdisciplinary teams of three to five early career researchers, possibly including a stakeholder, in order to advance constructive thinking and stimulate interdisciplinary discussion.
In the last call for applications that was administered by the Zukunftskolleg (deadline for applications was 1 September 2020), three innovative ideas from young researchers have been selected:

"Socio-ecological reshaping of European Cities and Metropolitan Areas"
Joachim Hack (PI – TU Darmstadt), Carlos Oliveira Cruz (Universidade de Lisboa), Rieke Hansen (Hochschule Geisenheim) & Andrea Nóblega Carriquiry (Universitat Autònoma de Barcelona)

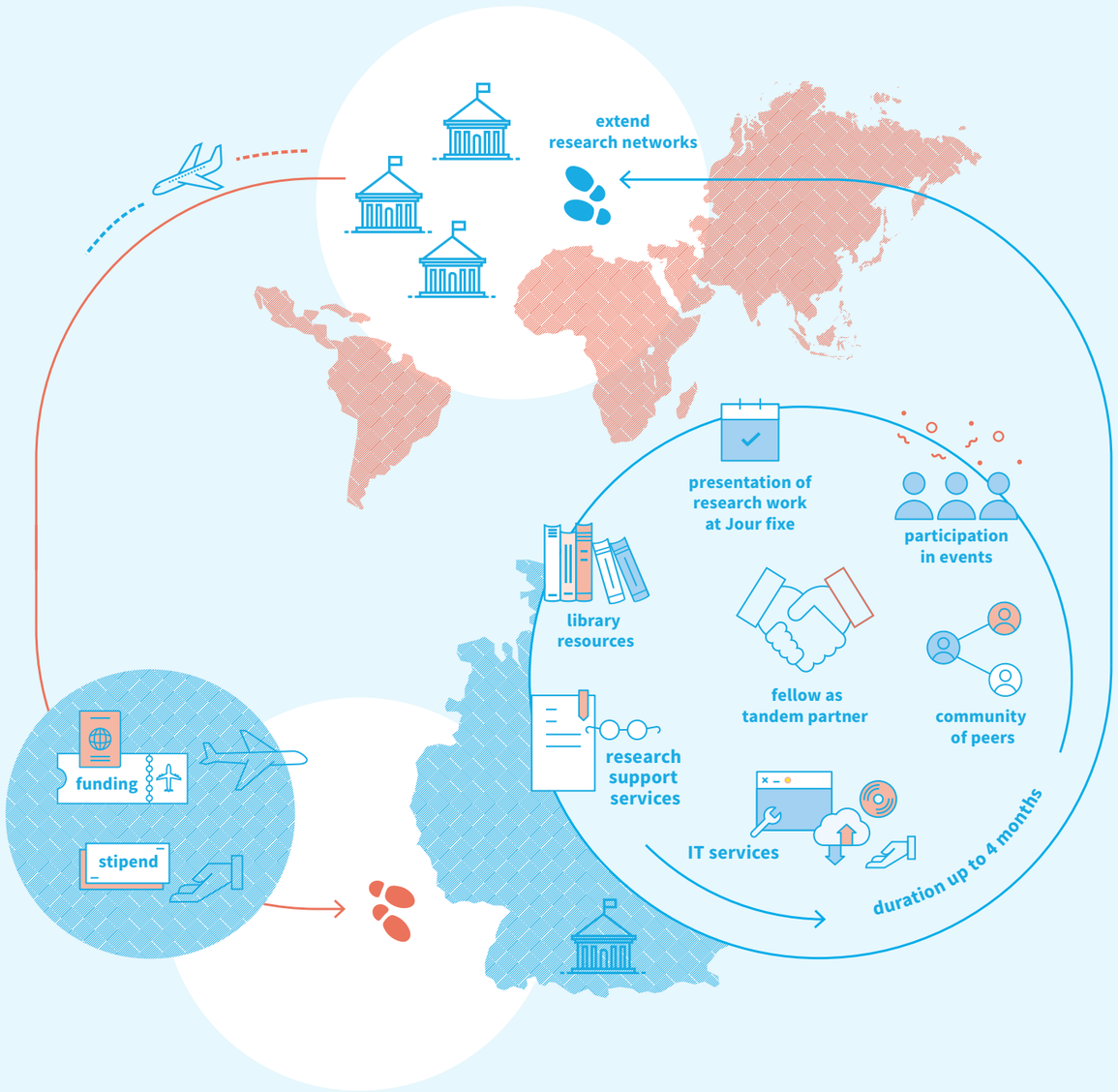
"Reconstituting Publics through Remembering Transitions: Facilitating Critical Engagement with the 1980-90s on Local and Transnational Scales"
Ksenia Robbe (PI - University of Groningen), Agnieszka Mrozik (Polish Academy of Sciences), Andrei Zavadski (HU Berlin) & Alexander Formozov (Dekabristen e.V.)

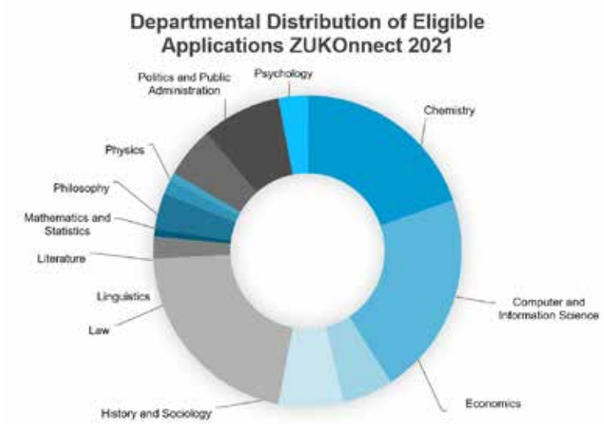
"Light as a key predictor of human health and well-being: Robust evidence and translation to public health"
Manuel Spitschan (PI - University of Oxford, Laura Kervezee (Leiden University), Renske Lok (Stanford University), Ray Najjar (Duke-NUS Medical School) & Elise McGlashan (Monash University)

During their project duration (up to three years), the groups will be hosted for a short research stay (up to two weeks) by five to six different European IAS. We are happy to welcome the groups of Ksenia Robbe and Manuel Spitschan during their 3-year CAT projects at the Zukunftskolleg.

New ZUKOnnect Fellows and Herz Fellows selected (2021 cohort)

In this year's ZUKOnnect call, we received 132 eligible applications from Africa (57.6%), Asia (31.1%) and Latin America (11.4%). The majority of the eligible applicants were PhD candidates. About 40% of the eligible applications came from female researchers.





After a peer-reviewed selection process, the Zukunftskolleg's Executive Committee has awarded four ZUKOnnect Fellowships to:

- **Anteneh Getachew Gebrie** (Mathematics and Statistics, lecturer from Ethiopia; research project: Incremental Algorithms with Acceleration Techniques for Hierarchical Optimization Problems and their Applications; local host: Stefan Volkwein)
- **Neelma Ashraf** (Biology, PhD candidate from Pakistan; research project: Identification of a Novel Strong Antifungal Polyene and Identification of the Lavendamycin Biosynthetic Gene Cluster of the Rhizobacterium Streptomyces sp. BR123 Isolated from the Rhizosphere of Helianthus Annuus from Pakistan; local host: Dieter Spiteller)
- **Ilesha Avasthi** (Chemistry, postdoctoral researcher from India; research project: Exploring Guanosine-Based Scaffold for Bioinspired Materials for 'Mineral Plastics'; local host: Helmut Cölfen)
- **Gabriel Cerqueira** (History and Sociology, PhD candidate from Brazil; research project: Social Control, Hygienism and Family Law: Transnational Knowledge Exchange between Brazil and the League of Nations (1919-1930); local host: Anne Kwaschik)

The foundation "Manfred Ulmer-Stiftung für Wissenschaft und Gesellschaft" at the University of Konstanz is funding one of the ZUKOnnect Fellowships for the first time, and we are happy to announce that it has selected Illesha Avasthi.

With the Henriette Herz Award 2020 launched by the Alexander von Humboldt-Stiftung, four additional Herz Fellowships based on nominations by the Internal Liaison Board (ILB) have been awarded. All (junior) professors at the University of Konstanz as well as international strategic partners were entitled to submit proposals to the ILB.

The following Herz Fellows will join the Zukunftskolleg:

- **Norman Chivasa** (Politics and Public Administration, postdoctoral researcher from South Africa; research project: Hybrid Conflict Resolution in Rural Zimbabwe's Customary Courts; local host: Tim Wegenast)
- **David Ubua Etta** (Linguistics, PhD candidate from Nigeria; research project: Towards a Phonology of Bokyi; local hosts: Miriam Butt & Theo Marinis)
- **Priyanshu Goel** (Physics, PhD candidate from India; research project: Synthesis of Highly Efficient MOF and Perovskite Composite for Development of Stable and Efficient Optoelectronic Device; local host: Lukas Schmidt-Mende)
- **Mahsa Mozafari-Nia** (Computer and Information Science, PhD candidate from Iran; research project: Various Colourings of Fractional Powers of Graph; local host: Sabine Storandt)

The 2021 ZUKOnnect and Herz Fellow cohort start their 3-4 month on-campus research stay in Konstanz in autumn 2021. The on-campus research stays are complemented by a 12-month digital fellowship. This gives them the opportunity to expand their research networks even after returning to their home institution. While in Konstanz, the fellows become an integral part of the community at the Zukunftskolleg and enrich the scientific discussions within the university.

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.

Between August 2020 and July 2021 the following funding was granted:

→ Co-Funding

This programme offers financial support to co-fund the human and material resources needed for projects at the Zukunftskolleg, e.g. for student or research assistants, conferences, equipment, research trips or consumables. Listed are some examples for granted Co-Funding applications.

Gruia Badescu (Dept. of History and Sociology)
Funding for copy editing for the book "Synchronous Past: Transforming heritage in the former Yugoslavia"

Armin Bahl (Dept. of Biology)
Funding for the research stay of the 4th year PhD student Nikolai Hörmann and for experiments run by Armin and Nikolai in the lab
Funding for hiring student assistants

Angelo di Bernardo (Dept. of Physics)
Funding for hiring a student assistant

Ariane Bertogg (Dept. of History and Sociology)
Funding for hiring a student assistant

Jacob Bloomfield (Dept. of Literature)
Funding of travel cost for a research stay in Tokyo

Svetlana Boycheva Woltering (Dept. of Biology)
Funding for RNAseq experiments
Funding for a student assistant

Panteleimon Eleftheriou (Dept. of Mathematics)
Funding for additional travel costs for two job interviews and for participation in a conference on logic in Lisbon, Portugal on 30.01.-1.02.2020

Jolle Jolles (Dept. of Biology)
Funding for research equipment

Cornelia Klocker (Dept. of Law)
Funding for participation fee for an online conference on "The Influence, Legacy and Future of the European Court of Human Rights in the International Legal Order" on 08.06.2021
Funding for hiring a student assistant

Gisela Kopp (Dept. of Biology)
Cofunding for the project "Baboons in Ancient Egypt: Geographic Origin of Baboon Mummies as Revealed by Ancient DNA Analysis"
Funding for hiring student assistants

Morgane Nouvian (Dept. of Biology)
Funding for a laptop

Jennifer Randerath (Dept. of Psychology)
Funding for a laptop replacement

Mialy Razanajatovo (Dept. of Biology)
Funding for using a photo in a publication

Giovanna Rodriguez-Garcia (Dept. Of Politics and Public Administration)
Funding for participation in the IPSA conference on 10.-15.07.2021 in Montreal, Canada

Daniela Rößler (Dept. of Biology)
Funding for a camera
Funding for hiring a student assistant

Cristina Ruiz Agudo (Dept. of Chemistry)
Funding for the research Project "Crystallization of Magnesium-Silicate-Hydrate (M-S-H) in Presence of Additives"

Nihan Toprakkiran (Dept. of Politics and Public Administration)
Funding for a laptop
Funding for hiring student assistants

Abena Yalley (Dept. of Literature)
Funding for fees for three panelists for a panel discussion on Racism in Academia
Funding for empirical work in Ghana
Funding for hiring student assistants

→ Mentorship

The programme enables non-tenured researchers at the University of Konstanz (postdoctoral researchers, junior professors, research group leaders, etc.) to network with distinguished colleagues both in Germany and abroad and to nurture these contacts.

Cornelia Klocker (Dept. of Law)
Mentor: Tove Hansen Malloy (European Centre for Minority Issues, University of Flensburg)
Project title: What makes a group? An empirical study of the European Court of Human Rights' understanding of the term "group" in its non-discrimination case law

Katharina Zahner-Ritter (Dept. of Linguistics)
Mentor: Anne Cutler (MARCS Institute, Western Sydney University, Australia)
Project title: Towards promoting awareness for the teaching and learning of prosody in a foreign language

Maria Zhukova (Dept. of Literature)
Mentor: Stephen Hutchings and Vera Tolz (University of Manchester, UK)
Project title: Reframing Russia for the Global Mediasphere: From Cold War to "Information War"

Katarina Zigova (Dept. of Sociology)
Mentor: Chris Doucouliagos (Deakin University of Melbourne, Australia)
Project title: Ideological Biases in Effect Size Reporting

→ Interdisciplinary Collaborative Projects

The programme aims to promote research collaborations between non-tenured researchers (postdoctoral researchers, junior professors, research group leaders, etc.). 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.

Anja Osei (Dept. of Politics and Public Administration) and Florian Stoll (Cultural Studies, University of Bayreuth)
Project title: Stratification, ways of life and socio-political orientations in Kenya and Cote d´Ivoire. A comparative mixed-methods study in Sociology and Political Science

Felix Hamborg (Dept. of Computer and Information Science) and Franziska Weeber (Dept. of Sociology)
Project title: Towards assisted content analysis. Exploring the Potential of Natural Language Processing Methods to Reduce Cost in Social-Scientific Content Analysis

→ Transdepartmental Collaborative Teaching

The 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.

Abena Yalley (Dept. of Literature / Politics and Public Administration), Liliana Abreu (Dept. of Politics and Public Administration) and Anke Koebach (Dept. of Psychology)
Seminar title: The legacy of violence in pandemic times: Global health challenges and gender dynamics

Diego Frassinelli (Dept. of Linguistics) and Caterina Moruzzi (Dept. of Philosophy)
Seminar title: The Present and Future of AI Research

Eva Johach (Dept. of Sociology) and Anja Weidenmüller (Dept. of Biology)
Seminar title: Collective behaviour: interdisciplinary dialogues

→ Intersectoral Cooperation Programme

The programme aims to develop cooperation between non-tenured researchers (postdoctoral researchers, junior professors, research group leaders, etc.) and the non-academic sector. Grants will be given to support cooperation that fosters joint research projects with industrial partners, companies, social institutions, cultural institutions, archives, public bodies or non-profit organizations.

Juhi Kulshrestha, Denis Bonnay (industrial partner / Respondi SAS, France), and **Marcos Oliveira** (academic cooperation partner / University of Exeter, UK)
Project title: Lockdown on the Web: The unequal impact of the COVID-19 pandemic on people's web browsing behaviour

Gruia Badescu (Dept. of History and Sociology) and Sabine El Chamaa (filmmaker)
Project title: Beirut-Sarajevo Intersections

→ Research Visit

These programmes seek to enhance international research cooperation and support international mobility. They fund temporary research stays both at the Zukunftskolleg and abroad for international exchange among peers:

- The Network Research Visit programme for Zukunftskolleg fellows encourages temporary assignments to a partner Institute for Advanced Study or any international research university **(Outgoing Research Visit)**.
- Zukunftskolleg fellows can nominate international early career researchers for a Research Visit at the Zukunftskolleg **(Invited Research Visit)**.
- Early career researchers from the Zukunftskolleg's partner institutes can apply for a Research Visit at the Zukunftskolleg **(Network Research Visit)**.
- A special Research Visit programme at the Zukunftskolleg supports temporary research stays of one to three months by international early career researchers from our partner university Alexandru Ioan Cuza University of Iași, Romania.

Between August 2020 and July 2021, the following Research Visits were granted:

Iulia Dumitrache (Dept. of History)
Network Research Visit from "Al.I. Cuza" University Iasi, Romania
Project title: Far/Away from Home: Patterns of Mobility for the Roman Military Personnel in Moesia Inferior and Germania Superior

Mirjam Lücking (Dept. of Social Anthropology)
Network Research Visit from Martin Buber Society of Fellows, Israel
Project title: Going West: New cosmopolitan religious identities in Muslim and Christian package tourism from Indonesia to Israel and Palestine

Sergiu Sava (Dept. of Philosophy)
Network Research Visit from "Al.I. Cuza" University Iasi, Romania
Project title: Collective Intentionality, Counter-Intentionality: Analytic Philosophy, Phenomenology

Paula Tesche (Dept. of Literature/Linguistics)
Invited Research Visit from Austral University of Chile
Project title: Memories of the resistance to the catastrophe in the city of Concepción, Chile
Invited by Research Fellow Gruia Badescu

→ Independent Research Grant

The funding programme aims to promote independent research by postdoctoral researchers at the University of Konstanz. In particular, we encourage applications which support the exploration of new ideas and for implementing pilot projects. The grant can cover consumables, equipment, travel costs and student research assistants.

Rory Archer (Dept. of History)
Project title: Between opportunity and crises: An oral history of Serbian labour migration to Greece (1990-2010).

Ana Isabel del Arco Ochoa (Dept. of Biology)
Project title: Microbial-mediated protection against virus infections

Maik Bieleke (Dept. of Sports Science)
Project title: Developing and validating a scale for assessing individual differences in the inclination towards physical effort – "Need for Physical Effort" (NPE)

Hanja Brandl (Dept. of Biology/CASCB)
Project title: Correlating early life and present stress to differences in aggression in a group living bird, the Siberian jay

Aneesh Bose (Dept. of Biology/CASCB),
Project title: Kin selection versus ecology in determining the structure of complex animal societies

Anna Czypionka (Dept. of Linguistics)
Project title: The role of timing and interindividual variation in NPI licensing illusions

Diana Galos (Dept. of Sociology)
Project title: New Tools in the Hiring Process? Social Media and Discrimination based on Social Class

Mohsen Jenadeleh (Dept. of Computer and Information Science)
Project title: Visually lossless compression for JND-based video quality assessment using crowdsourcing

Ana Isabel Lopez Garcia (Dept. of Politics and Public Administration)
Project title: Migration, Tax Evasion and Bribery: Evidence from a Conjoint Experiment in Mexico

Javier Martinez Canto (Dept. of Politics and Public Administration)
Project title: The political representation of left-behind places

Luca Mechelli (Dept. of Mathematics and Statistics)
Project title: Efficient model order reduction for model-predictive control of non-linear input-output dynamical systems

Georg Müller (Dept. of Mathematics and Statistics)
Project title: Efficient Simulation of a Spatiotemporal SIR Model

Elnaz Rashidian (Dept. of History)
Project title: Revisiting Firuzabad (South Fars, Iran); a complementary study of material culture and reassessment of published and unpublished material

Baiba Renerte (Dept. of Economics)
Project title: From Homo Economicus to Homo Prospectus: Bringing "cathedral thinking" to the boardroom

Joanna Ruszkiewicz (Dept. of Biology)
Project title: NAD+ supplementation in the protection against genotoxic stress in vivo

Andreas Spitz (Dept. of Computer and Information Science)
Project title: Crowdsourcing the Collection and Identification of Predatory Academic Junk Mail

Katrin Vogt (Dept. of Biology)
Project title: Deciphering the neural circuit underlying decision making in response to conflicting cues

Susanne Wißhak (Dept. of Economics)
Project title: Development of a Knowledge Test for Adult Education Practitioners

→ Investment Programme for Research

This programme aims at improving apparatus and equipment in research. Participants can apply for apparatus requiring an outlay of between 5,000 and 10,000 euros for use in conducting their research.

Armin Bahl (Dept. of Biology)
Funding for purchasing high-quality micropipette fabrication tools for neurobiological research

Daniela Rößler (Dept. of Biology)
Funding for purchasing a high-resolution 3D printer, a laser-cutter, a digital microscope and a DSLR camera + macro lens

Events

Events organized by the Zukunftskolleg and its fellows.

→ 2020

17 September
Who has the 'right to speak' in memory-work?
Workshop organized by Gruia Badescu
10th Memory Lab Seminar

23-26 September (planned 09/2020, postponed to 2021 due to the pandemic)
Colloquium Logicum 2020
Deutsche Vereinigung für Mathematische Logik und für Grundlagenforschung in den exakten Wissenschaften (DVMLG), local and scientific committee organized by Carolin Antos-Kuby

30 September
Beyond the memorial museum: Exhibiting memory practices
Roundtable organized by Gruia Badescu
Post-Socialist and Comparative Memory Studies conference

12 November
virtual CAT selection meeting of all participating European IAS to select new CAT groups
(see page 71)

27 November
Communal Sense
Judith Beyer lecture at the Gemeinsinn lecture series organized by Gruia Badescu
University of Konstanz

2 December
What we mean when we talk about race
Keynote lecture by Andrea Lailach-Hennrich, organized, introduced, and moderated by Cornelia Klocker in the framework of the Zukunftskolleg "Racism in Academia" event series
(see page 80/81)

→ 2021

January
Who has the 'right to speak' in memory work? #2
Online workshop organized under the framework of the Memory Lab and Gruia Badescu
University of Konstanz

19 January
Coded Bias
Film screening and panel discussion in collaboration with Zebrakino Konstanz, with Sarah Chander, Asanda Saule Ngoasheng and Violeta Ivanova-Rohling, organized and moderated by Cornelia Klocker in the framework of the Zukunftskolleg "Racism in Academia" event series (see page 80/81)

2 February
In the shoes of the African Scientist: The strife towards global acceptance
Roundtable discussion with Senayon Olaoluwa, Maria Martin and Victor Araujo, organized and moderated by Abena Yalley in the framework of the Zukunftskolleg "Racism in Academia" event series (see page 80/81)

21/28 February
Apraxia for the Advanced Studies of Motor Neurorehabilitation
University of Konstanz, organized by Jennifer Randerath with Sarah Stoll

9 March
Unconscious bias training by *EAF Berlin* in the framework of the Zukunftskolleg "Racism in Academia" event series (see page 80/81)

23 March
Virtual day trip to Metropolitan Museum of Art / New York
As part of the Zukunftskolleg's annual day trip

14 April
Unravelling unconscious bias
Workshop with Pragya Agarwal, organized, introduced, and moderated by Cornelia Klocker in the framework of the Zukunftskolleg "Racism in Academia" event series (see page 80/81)

20/21 April
Netias Annual Business meeting
all virtual in Amsterdam

25 May
Racial Contentions in view: An art exhibition
Video presentation by Lavi Israel, organized and moderated by Abena Yalley in the framework of the Zukunftskolleg "Racism in Academia" event series (see page 80/81)

May until August
Neuropsychologische Störungsbilder
as part of the intersectoral project *Cognitive Neuro-Psychotherapy*
Psychotherapists at apb Center for Psychotherapy Konstanz, organized by Jennifer Randerath

11/12 June
Diagnostik und Therapie der Apraxie
Society for Neuropsychology, Austria, organized by Jennifer Randerath with Ilka Buchmann

15 June
Critical Human Rights and Memory Colloquium
Organized by Gruia Badescu
University of Konstanz

15 June
Diversity training by *Living Diversity* in the framework of the Zukunftskolleg "Racism in Academia" event series (see page 80/81)

22 June
Heritage After Empire in Central and Eastern European Cities
Panel organizer and speaker Gruia Badescu
Council of European Studies (CES) Annual Conference

23 June
Decolonizing Race: Perspectives from Latin America and beyond
Panel discussion with Graziella Moraes Silva, Sérgio Costa, Leonildes Nazar and Jonathan W. Warren, organized and moderated by Gruia Badescu in the framework of the Zukunftskolleg "Racism in Academia" event series (see page 80/81)

30 June
Everything passes except the past
Panel discussion with Jana Haeckel, Bianca Baldi and Kirsten Mahlke, organized, introduced and moderated by Cornelia Klocker in the framework of the Zukunftskolleg "Racism in Academia" event series (see page 80/81)

5 July
Minerals to Materials: Geomimetic Pathways and Exotic Reactivity for a Sustainable Future
Goldschmidt virtual conference organized and convened by Cristina Ruiz Agudo

8 July
Memory, Space and Place
Roundtable organized by Gruia Badescu
Memory Studies Association Annual Conference

9 July
Memory, Place and Resistance: Alternative Practices in Contested Memory Space
Panel organized by Gruia Badescu
Memory Studies Association Annual Conference

30 July
Diagnostik und Therapie der Apraxie
Justus-Liebig University of Gießen, organized by Jennifer Randerath with Ilka Buchmann

Event Series “Racism in Academia”

As a reaction to Black Lives Matter and the university’s solidarity statements, some Zukunftskolleg fellows (mainly Cornelia Klocker, Nihan Toprakkiran, Gisela Kopp and Henri Kauhanen) also published a statement of solidarity and organized a digital/hybrid event series in the 2020/21 winter semester and the 2021 summer semester.

Statement of Solidarity of the Zukunftskolleg

People in the US and around the world are coming together to protest against institutionalized racism and racialized violence. We, too, cannot remain silent and continue with ‘research as usual’. We recognize that racism and discrimination are a genuine problem both in Germany in general and in German academia in particular. We acknowledge the underrepresentation of BIPoC* in the scientific community as well as the inequalities they face in that community and we express here our commitment to fight against these inequalities.
Within our own institute, the Zukunftskolleg, we want to critically reflect and act upon the repercussions of racism inherent in our societies and institutional structures. We will:

→
Create a Jour fixe series on institutional racism in academia, led by experts
→
Diversify our curriculum through the increased inclusion of texts and research by BIPoC in teaching
→
Provide certified training to our fellows on racism, unconscious bias, and diversity and gender competence
→
Acquire expert consultation on our selection processes for fellowships and provide training to those holding decision-making positions for other grants and funding instruments within the Zukunftskolleg (such as members of the Executive Committee)
→
Increase the outreach to BIPoC and advertise our funded programmes (Postdoctoral Fellowship, Research Fellowship, Senior Fellowship, Research Visit, Mentorship) more widely, as well as further advance the programme of ZUKOnnect Fellowships
→
Review the progress on all these measures in the last EC meeting every academic year in July and make the progress report public to ensure transparency

*Black, Indigenous, and People of Colour

→
Schedule of events in the 2020/21 winter semester and 2021 summer semester

2 December 2020
What we mean when we talk about race
Opening lecture
Andrea Lailach (Alumna / Politics and Public Administration)
Moderation: **Cornelia Klocker** (Postdoctoral Fellow / Law)

19 January 2021
Racism in film: “Coded Bias”
Film screening + discussion
▪ **Sarah Chander,** AI and non-discrimination (European Digital Rights, Brussels)
▪ **Asanda Saule Ngoasheng,** gender and racial justice activist (Centre for Rights and Justice, University of Sussex)
▪ **Violeta Ivanova-Rohling,** machine learning and quantum computing (Postdoctoral Fellow / Physics)
Moderation: **Cornelia Klocker** (Postdoctoral Fellow / Law)
in collaboration with Zebra Kino Konstanz

2 February 2021
In the shoes of the African Scientist: The strive towards global acceptance
Roundtable discussion
▪ **Senayon Olaoluwa** (University of Ibadan)
▪ **Maria Martin** (University of California)
▪ **Victor Araujo** (University of Zurich)
Moderation: **Abena Yalley** (Postdoctoral Fellow / Literature & Politics and Public Administration)

9 March 2021
Unconscious bias training
Workshop (Zukunftkolleg internal)
EAF Berlin

14 April 2021
Unravelling unconscious bias
Workshop
Pragya Agarwal (behavioural and data scientist, author / UK)
Moderation: **Cornelia Klocker** (Postdoctoral Fellow / Law), **Felicia Afriyie** (Centre for the Advanced Study of Collective Behaviour)

25 May 2021
Racial contentions in view: An art exhibition on racism
Video presentation and discussion
Lavi Israel (artist / Congo)
Moderation: **Abena Yalley** (Postdoctoral Fellow / Literature & Politics and Public Administration)

10 June 2021
Diversity @ Uni KN - Past, Present & Future
Workshop
▪ **Dorothea Debus** (Vice Rector for International Affairs, Equal Opportunity and Diversity)
▪ **Marion Woelki** (Director Equal Opportunity Office)
Moderation: **Sebastian Tillmann** (Equal Opportunity Office)

15 June 2021
Diversity training
Workshop (Zukunftskolleg internal)
Living Diversity

23 June 2021
Decolonizing Race: Perspectives from Latin America and beyond
Panel discussion
▪ **Graziella Moraes Silva** (Associate Professor in Anthropology and Sociology at the Graduate Institute of International and Development Studies, Geneva, Switzerland)
▪ **Sérgio Costa** (Professor for Sociology of Latin America at Freie Universität Berlin and Co-Director of the M. S. Merian Centre Conviviality-Inequality in Latin America [mecila.net])
▪ **Leonildes Nazar**
▪ **Jonathan W. Warren** (ethnographer, heterodox sociologist, and digital story-maker who has spent the past thirty years researching race matters in Brazil, the US, Vietnam and Germany)
Moderation: **Gruia Badescu** (Research Fellow / History and Sociology)

30 June 2021
Everything passes except the past
Discussion with artists
▪ **Jana Haeckel** (project coordinator)
▪ **Bianca Baldi** (artist)
Moderation: **Cornelia Klocker** (Postdoctoral Fellow / Law)
in collaboration with Goethe-Institut Brüssel

Talks*

Carolin Antos-Kuby

"Set theory between mathematics, logic and philosophy"
University of Luxembourg, July 2021

"Mathematics, meta-mathematics and logic"
Leeds-Ghent Virtual Logic Seminar, University of Leeds (UK), April 2021

"The 'algebraic' vs. 'non-algebraic' distinction: New impulses for the universe/multiverse debate?"
CUNY Set Theory Seminar, Graduate Center, City University of New York (USA), March 2021

"Two aspects of explanation"
Logic Seminar, University of Helsinki (Finland), November 2020, digital format

Gruia Badescu

"Transnational Sites of Memory After Political Violence: Multi-scalar Entanglements in Latin American Southern Cone Memorialization Practices."
Memory Studies Association annual conference, Warsaw (Poland), July 2021

"Towards Syncretic Place-making: Alternative Engagements with Materiality, Diversity and Contested Memories in Sarajevo and Beyond"
Memory Studies Association annual conference, Warsaw (Poland), July 2021

"Dignified colonists: Entangled memories of Germanness in the Chilean South"
Transnational Germans: Competing Ideas of Germanness conference, Bochum (Germany), July 2021

"Walking through the traces/spaces of the pasts"
Keynote with Olga Sezneva, Proteus Webinar, Amsterdam (The Netherlands), July 2021

"Remaking The Urban: International Actors and the Post-war Reconstruction of Cities."
Workshop on Rethinking the study of international interventions through transversal lines of inquiry, June 2021

"Criminalizing The Past Through Spatial Practices: Transnational Memory Place Making After 1990."
A "New Geography of the International" online seminar, Harvard University, MA. (USA), June 2021

"Centennial Materialities: Reconfiguring the Heritage of Empire in the Celebrated Place of the Nation."
Council of European Studies Annual Conference, June 2021

"Syncretic Place-making in Sarajevo and Beyond: Semiotic Landscapes of Cosmopolitanism and their Discontents"
Semiotic Landscapes of Southeastern Europe conference, CAS Rijeka, Moise Palace, Cres, May 2021

"Entangled memory practices on sites of political violence."
Invited lecture distant talks, lecture series Politecnico di Torino (Italy), May 2021

"Urban Education Live: models for collaboration between universities and local communities"
With Carolyn Butterworth, University of Sheffield, lecture, "Fusion: Perspektiven" lecture series in architecture, University of Kassel (Germany), May 2021

"Building a Critical Human Rights and Memory Research Agenda: Frictions to Victim-centered Memorialization Approaches in Latin America and Europe"
Off Limits. A Roundtable Discussion on Memory Culture and Its Challenges. Institute for Advanced Study, Central European University Budapest (Hungary), April 2021

"'Negative heritage' in Southeastern Europe: Local and transnational entanglements in memorializing political prisons after the end of socialism."
The Difficult Heritage of Dictatorship in Europe, March 2021, online workshop

"Patchwork urbanities: Imaginations of modernity and heritage in rebuilding German cities"
After War: New Architectural Landscapes and Public Spaces of Ruined Cities talk series, Berlin (Germany), March 2021

"Transnational Memory Spaces-Comparative, Entangled Perspectives on the Latin American Southern Cone and Southeastern Europe"
SNSPA Bucharest (Romania), January 2021

"Architectural reconfigurations after border change and population movements: Interrogating frontier urbanism in Rijeka 1945-1960"
Rijeka in Flux: What have we learned so far workshop, Rijeka/online, January 2021

"Making sense of ruins: Post-war urban reconstruction and dealing with the past since 1945"
Konstanz Modern History Colloquium, January 2021

"Architectures of memory: Urban reconstruction and dealing with the past in Belgrade and Sarajevo"
MemWar – Memorie e oblii delle guerre e dei traumi del XX secolo conference, December 2020, Geneva/online

"Syncretic place-making: Architects, collective memory, and cosmopolitan heritage in Sarajevo and Beyond"
Practices of Inheritance – Metaphors, Materializations, Power Constellations conference, November 2020, Berlin/online

"Museums, sites of memory and the criminalization of authoritarian pasts: A comparative, transnational study of Central and Eastern Europe and the Southern Cone of Latin America"
Post-Socialist memory in Global Perspective: Postcolonialism, Post-transition, Post-trauma First PoSoCoMeS – Memory Studies Association Working Group conference, September – October 2020

"Centennial materialities in Alba Iulia: Reconfiguring heritage of empire in the celebrated place of the nation"
Post-Socialist memory in Global Perspective: Postcolonialism, Post-transition, Post-trauma First PoSoCoMeS – Memory Studies Association Working Group conference, September – October 2020

Ariane Bertogg

"Protected through part-time work? Employment, domestic responsibilities and life satisfaction of German women during the COVID-19 pandemic"
Transforming Care Conference, with Nevena Kulic and Susanne Strauß, 24-26 June 2021

"Helping children with 'cash' or 'care'? Kinship structure, welfare policy and downward intergenerational transfers"
Virtual 27th International Conference of Europeanists, 21-25 June 2021

„Solidarität von unten? Zivilgesellschaftliche Hilfe während des langen Sommers der Migration und der COVID-19 Pandemie in Deutschland"
HybOrg Konferenz Konstanz/Zürich (Germany/Switzerland), with Sebastian Koos, 18 June 2021

"Helping children with 'cash' or 'care'? Kinship structure, welfare policy and downward intergenerational transfers"
ISA RC28 (Research Committee on Social Stratification) Spring Meeting, 2-4 June 2021

"Work-life balance in the second half of life"
ETK Pension Webinar: "Inequalities in pensions and retirement – Life courses and pension systems in comparative perspective", organized by the Finnish Center for Pensions, 10 May 2021

"Social inequality and local solidarity in times of crises. The COVID-19 pandemic and the emergence of informal helping arrangements in Germany"
Analytical Sociology: Theory and Empirical Applications, with Sebastian Koos, Venice (Italy) 16-18 November 2020

"Needs or Obligations? The Role of Childcare Infrastructure and Regional Norms for Reconciling Grandchild Care and Employment"
MZES Kolloquium, Mannheim (Germany), 20 October 2020

"Partnership transitions and cognitive functioning among the European 50+"
Annual Meeting of the European Network for the Sociological and Demographic Study of Divorce, with Anja Leist, 14-16 October 2020

Jacob Bloomfield

"Splinters: Cross-Dressing Ex-Servicemen on the Interwar Stage"
International Federation for Theatre Research Conference, Galway (Ireland), July 2021

"Renegade or Retrograde: Questioning Little Richard's Legacy"
Global Gender Nonconformity, Past and Present: Language, Labels and Ways of Knowing, conference, King's College London/Northumbria University (UK), June 2021

"Intro to Queer History" and "Intro to Drag History"
Bader International Study Centre/Queen's University (Kingston), Hailsham (UK), February 2021

"Tutti Frutti: Little Richard, Sex, Gender, and Transgression in America and Europe"
Expressions Research Orientations: Sexuality Studies (EROSS), seminar series, Dublin City University (Ireland), February 2021

"Tutti Frutti: Little Richard, Sex, Gender, and Transgression in America and Europe"
Colloquium Modern History, seminar series, University of Konstanz (Germany), November 2020

Klaus Boldt

"Formation and Charge Localisation Properties of Nano-heterojunctions"
Physical Chemistry Colloquium, University of Rostock (Germany), May 2021

"Quantification of Material Gradients in Nanocrystals"
Australian Synchrotron User Meeting, November 2020

"Quantification of Material Gradients in Nanocrystals"
nanoGe Fall Meeting, October 2020

Sidney Carls-Diamante

"Philosophical Explorations of Bipolar Disorder"
AG Clinical Psychology Colloquium, University of Konstanz, Konstanz (Germany), July 2021

"The curriculum of the octopus teacher: lessons for cognitive science and philosophy"
Recent Debates in Animal Cognition and Child Development Colloquium, Ruhr-Universität Bochum, Bochum (Germany), June 2021

*Unless otherwise stated, all talks were virtual.

"The octopus and consciousness: What Can We Learn?"
Association of Cephalopod Research CephRes 2020 Virtual Event, September 2020

Panteleimon Eleftheriou
"Pillay's Conjecture for groups definable in weakly o-minimal non-valuational structures"
Logic Seminar, Università della Campania Luigi Vanvitelli, Caserta (Italy), 25 March 2021

Gabriella Gall
"Use of vocal signals to coordinate group movement"
Seminar of the Centre for the Advanced Study of Collective Behaviour University of Konstanz, Konstanz (Germany), May 2021

Violeta Ivanova-Rohling
Poster presentation at "Frontiers of Quantum and Mesoscopic Thermodynamics", July 2021

"Optimal state tomography by measuring the qubit of a qubit-qutrit system"
"American Physical Society March Meeting", March 2021

"Machine learning approaches for discovering optimal sets of projection operators for quantum state tomography of qubit systems"
National Seminar on Coding Theory Stefan Dodunekov 2020

Jolle Jolles
"The Raspberry Pi: A versatile tool for biologist"
Conference talk, SEB (virtual) Annual Meeting 2021, July 2021

"The benefits of Open Electronics for the individual researcher"
Conference talk, SEB (virtual) Annual Meeting 2021, July 2021

"The role of individual heterogeneity in animal communities: social and eco-evolutionary consequences "
Departmental seminar, CSIC Centre for Advanced Studies of Blanes (CEAD), Blanes (Spain), February 2021

"Experimental insights into the personality and collective behaviour of sticklebacks"
Talk for the White Sea Stickleback Workshop, St Petersburg State University, St Petersburg (Russia), February 2021

"From consistent individual differences to collective animal behaviour"
Seminar for MSc course Current Topics in Behavioural Ecology, Department of Behavioural Biology, Ludwig-Maximilians University of Munich, Munich (Germany), December 2020

Henri Kauhanen
"Power, linking and (the future of) hypothesis testing in variationist syntax"
DiGS 22 pre-conference workshop "Syntactic Change in Progress", Konstanz (Germany), 19 May 2021

"Evolutionary games and the social dynamics of language"
IFISC Seminar, Palma (Spain), 3 February 2021

"Evolutionary dynamics and sociolinguistic patterns"
Linguistics Department Seminar. Konstanz (Germany), 3 December 2020

Cornelia Klocker
"The Influence, Legacy and Future of the European Court of Human Rights in the International Legal Order"
Paper presentation on "The ECtHR, discrimination and conflict: Exploring CERD as alternative forum" together with Deborah Casalin, University of Antwerp, Antwerp (Belgium), 8 June 2021

"Manufacturing Collectivity. Exploring the Nexus of Gender, Collectivities, and Law"
Paper presentation on "Mapping the language of discrimination cases: the terminology of "groups" and the European Court of Human Rights", Humboldt University, Berlin (Germany), 2-4 June 2021

"The European Convention on Human Rights turns 70: Taking Stock Thinking Forward" conference
Paper on "The language of Article 14: Who is saying what about groups?", Ghent University, (Belgium), 18-20 November 2020 (cancelled due to COVID-19)

Gisela Kopp
"Evolutionary consequences of social system variation"
Department for the Ecology of Animal Societies, Max Planck Institute of Animal Behaviour, Konstanz (Germany), 28 July 2021

"#IchbinHanna – Machen Zeitverträge die Wissenschaft in Deutschland kaputt?"
Radio interview at SWR2 Impuls, 17 June 2021

"Research and family in the pandemic"
Panel discussion, ERUA event: Our Europe today, 17 June 2021

"Junge Forscherinnen ausgebremst"
Panel discussion, Körber-Stiftung, 6 May 2021

Noelia Martínez Doallo
"Rationality, Consistency, and the Foundation of Human Rights in the Thought of Alan Gewirth"
Workshop of the research group Philosophy, Constitution and Rationality (G00080), University of A Coruna (Spain), 3 March 2021

Morgane Nouvian
"Recruitment during honeybee colony defence"
French Club for Invertebrate Neurobiology, 14 June 2021

"Social regulation of stinging behaviour in honeybees"
Center for the Advanced Study of Collective Behaviour, University of Konstanz, Konstanz (Germany), 19 April 2021

"To sting or not to sting: social regulation of stinging behaviour in honeybees"
Research Center on Animal Cognition, Paul Sabatier University, Toulouse (France), 12 April 2021

"Recruitment during honeybee colony defence"
International Union for the Study of Social Insects, North-West European Section, 18 December 2020

"To sting or not to sting: social regulation of stinging behaviour in honeybees"
Biology department seminar series, University of Konstanz, Konstanz (Germany), 10 December 2020

Jennifer Randerath
"Behavioural and neuronal correlates of motor cognition"
Online talk at Friday Cognition and Neuroscience seminar series, Department of Psychology, University of Missouri (USA), September 2020

Daniela Rößler
"Unusual or simply overlooked? Natural history lessons from common jumping spiders"
STRI Behaviour Talks, Smithsonian Tropical Research Institute, Gamboa (Panama), June 2021

Cristina Ruiz Agudo
"Immobilization of metals in low pH M-S-H cement"
Within the session on Minerals to Materials: Geochemistry and reactivity of cement and other materials for a Sustainable Future in the Goldschmidt virtual conference 2021, July 2021

"Nucleation and early growth of Magnesium Silicate Hydrate"
In the Nanocem virtual conference 2021, June 2021

Ariana Strandburg-Peshkin
"Communication, coordination and culture in animal societies"
Invited talk, Deep Mind, 24 June 2021

"Communication and coordination across scales"
Talk, Kalahari Research Centre Annual Meeting, Zurich (Switzerland), 26 June 2021

"Signal exchange and group coordination in animal collectives"
Invited talk, Rebecca Saxe Lab Meeting, MIT (USA), 8 June 2021

"Signal exchange and group coordination in animal collectives – insights from neuroscience?"
Invited workshop talk, Society for Industrial and Applied Mathematics Conference, 24 May 2021

"Communication and collective behaviour in animal societies"
Invited talk, Stonybrook Behavioural Ecology Group Seminar Series, 28 October 2020

"Let's go! How meerkats communicate and coordinate while on the move"
MaxCine public outreach talk, 6 October 2020

Stephan Streuber
"Avatars and Virtual Reality for Psychological Research"
Turkish-German Frontiers of Social Science Symposium organized by Alexander von Humboldt Foundation, 2 October 2020

Nihan Toprakkiran
"External Voting Behaviour among People with Turkish, Polish and Italian Migration Background in Germany"
Department of Politics Brown Bag Seminar, University of Konstanz, Konstanz (Germany), 25 June 2021

Julián Torres-Dowdall
"The role of plasticity and ontogeny in the evolution of visual sensitivity"
Virtual Evolution 2021, June 2021, online conference

Abena Yalley
"Policing domestic violence: A beam or a crash of hope for domestic violence victims in Ghana and Nigeria"
Anthropology colloquium, University of Konstanz, Konstanz (Germany), July 2021

"Gender and research infrastructure in Africa"
Association of African Universities, March 2021

"How Ghana and Nigeria Police handle domestic violence"
Africa Mondays on Power FM (South Africa), January 2021

"Abuse and humiliation in the delivery room: Trends and impact of obstetric violence in Ghana"
COST Annual Conference, November 2020

Publications

Carolin Antos-Kuby

Antos-Kuby, C., Friedman, S. and V. Gitman 2021: *Boolean-valued Class Forcing,* Fundamenta Mathematicae. (accepted).

Antos-Kuby, C. and V. Gitman 2021: *Modern class forcing,* Research Trends in Contemporary Logic, M. Fitting, D. Gabbay, M. Pourmahdian, A. Rezus, A. Daghighi (eds.), College Publications, forthcoming.

Antos-Kuby, C., Baron, N. and S. Friedman 2021: *Universism and Extensions of V,* Review of Symbolic Logic.

Antos-Kuby, C. 2021: *Conceptions of infinity and set in Lorenzen's operationalism,* in: Proceedings der Konferenz "Paul Lorenzen: Mathematician and Logician", in der Reihe Logic, Epistemology and the Unity of Science, G. Heinzmann, G. Wolters (eds.), Volume 51, Springer.

Antos-Kuby, C. 2021: *Models as fundamental entities in set theory: a naturalistic and practice-based approach,* submitted by Erkenntnis. (under review).

Antos-Kuby, C. 2021: *Expanding the notion of inconsistency in mathematics: the theoretical foundations of mutual inconsistency,* Manuskript für From Contradiction to Defectiveness to Pluralism in Science: Philosophical and Formal Analyses, O. Bueno, M. Martínez-Ordaz (eds.), Synthese Library Book Series. (under review).

Antos-Kuby, C. and D. Kant 2021: *A general procedure for a Second Philosophy analysis into set-theoretic methodology,* Manuskript für Outstanding Contributions to Logic: Penelope Maddy, S. Arbeiter and J. Kennedy (eds.), Springer. (under review).

Gruia Badescu

Badescu, G., Baillie, B. and Mazzucchelli, F. (ed) 2021: Synchronous Pasts: *Transforming heritage in the former Yugoslavia,* Palgrave Macmillan.

Badescu, G. 2021: *Architectural Reconfigurations and Urban Remaking After Ruptures: Interrogating Frontier Urbanism in Rijeka/Fiume.* Central European Horizons, 2/1:43-70.

Badescu, G. 2021: *The modernist abject: Ruins of socialism, reconstruction, and populist politics in Belgrade and Sarajevo,* in Jody Jensen, (ed.), Memory and Populist Politics in Southeastern Europe. Abingdon: Routledge.

Chelcea, L., Ferenčuhova, S. and Badescu, G. 2021: *Globalizing postsocialist urbanism,* in Michele Lancione and Colin McFarlane (eds), Global Urbanism: Knowledge, Power and the City. Routledge: 71-79.

Badescu, G. 2020: *Transnational place-making after political violence: Agencies and practices of site memorialization in the Latin American Southern Cone,* in Aline Sierp and Jenny Wüstenberg (eds), Agency in Transnational Memory Politics. New York: Berghahn: 155-179.

Badescu, G. 2020: *Cosmopolitan Heritage? Post-War Reconstruction and Urban Imaginaries in Sarajevo and Beirut,* in Marco Folin and Heleni Porfyriou (eds.) Multi-ethnic Cities in the Mediterranean World, 19th -20th Centuries. Controversial Heritage and Divided Memories, Abingdon: Routledge: 121-138.

Ariane Bertogg

Bertogg, A., Koos, S. 2021: *Social inequality and local solidarity in times of crises. The Covid-19 Pandemic and the emergence of informal helping arrangements in Germany.* Elsevier, Research in Social Stratification and Mobility. doi: https://doi.org/10.1016/j.rssm.2021.100612

Bertogg, A., Leist, A. 2021: *Partnership and Cognitive Aging in Europe: Mediating Factors and Social Stratification.* Oxford Academic, Journal of Gerontology, Series B: Social Sciences. doi: https://doi.org/10.1093/geronb/gbab020

Bertogg, A., Strauss, S., Vandecasteele, L. 2021: *Linked lives, linked retirement? Relative income differences within couples and gendered retirement decisions in Europe.* Elsevier, Advances in Life Course Research, 47. doi: https://doi.org/10.1016/j.alcr.2020.100380

Bertogg, A., Nazio, T., Strauss, S. 2021: *Work–family balance in the second half of life: Caregivers' decisions regarding retirement and working time reduction in Europe.* Wiley, Social Policy & Administration, 55/3: 485-500.

Strauss, S., Bertogg, A. 2021: *Geschlechterungleichheiten in Zeiten von Corona. Auswirkungen der Pandemie auf Hausarbeit, Kinderbetreuung und Lebenszufriedenheit.* University of Konstanz: Cluster of Excellence "The Politics of Inequality", 2021. In_equality Magazin.

Koos, S., Bertogg, A. 2020: *Lokale Solidarität während der Corona-Krise: Wer gibt und wer erhält informelle Hilfe in Deutschland?* University of Konstanz: KOPS. Research Report.

Bertogg, A., Nazio, T., Strauss, S. 2020: *Work-Family Balance in the Second Half of Life.* Population Europe. Digest.

Jacob Bloomfield

Bloomfield, J. 2021: *Drag. A British History.* Oakland, California: University of California Press. (submitted for peer review).

Bloomfield, J. 2021: *Soldiers in Skirts: Cross-Dressing Ex-Servicemen, Sexuality and Censorship in Post-War Britain.* In: Mark Edward and Stephen Farrier (eds.), Drag Histories, Herstories and Hairstories: Drag in a Changing Scene, Volume 2. London: Bloomsbury.

Bloomfield, J. 2021: *Review: Reframing Drag: Beyond Subversion and the Status Quo by Kayte Stokoe.* In: Sexualities. (forthcoming)

Bloomfield, J. 2021: *Review: Rocking the Closet: How Little Richard, Johnnie Ray, Liberace, and Johnny Mathis Queered Pop Music by Vincent L. Stephens.* In: Cultural History. (forthcoming)

Svetlana Boycheva Woltering

Boycheva Woltering, S. and E. Isono 2020: *Knowing When to Self-Eat – Fine-Tuning Autophagy Through ATG8 Iso-forms in Plants.* Frontiers in Plant Science, 2020. 11:1621.

Sidney Carls-Diamante

Carls-Diamante, S. 2021: *Explanation within arm's reach: A predictive processing framework for single arm use in octopuses.* Erkenntnis. 1-16.

Panteleimon Eleftheriou

Eleftheriou, P. 2021: *Pillay's Conjecture for groups definable in weakly o-minimal non-valuational structures,* Bulletin of the London Mathematical Society, https://londmathsoc.onlinelibrary.wiley.com/doi/full/10.1112/blms.12494 (forthcoming).

Eleftheriou, P. 2021: *Counting algebraic points in expansions of o-minimal structures by a dense set,* Quarterly Journal of Mathematics https://academic.oup.com/qjmath/advance-article-abstract/doi/10.1093/qmath/haaa047/6008158?redirectedFrom=fulltext (forthcoming).

Eleftheriou, P., Leon Sanchez O., Regnault, N.: *On coincidence of dimensions in closed ordered differential fields,* Notre Dame Journal of Formal Logic. (forthcoming).

Violeta Ivanova-Rohling

Ivanova-Rohling, V., and N. Rohling 2021: *Evaluating machine learning approaches for discovering optimal sets of projection operators for quantum state tomography of qubit systems,* Cybernetics and Information Technologies 20/6: 61-73.

Jolle Jolles

Jolles, J. W., Sosna, M. M. G., Mazué, G. P. F., Twomey, C. R., Bak-Coleman, J., Rubenstein, D. I., Couzin, I. D. 2021: *Predator Attack Strategy and Prey Behaviour Drive Individual Predation Risk in Schooling Prey.* (under review).

Oellermann, M., Jolles, J. W., Ortiz, D., Seabra, R., Wenzel, T., Wilson, H., Tanner, R. 2021: *Harnessing the Benefits of Open Electronics in Science.* Preprint available at: https://arxiv.org/abs/2106.15852 (under review).

Klamser, P. P., Gómez-Nava, L., Landgraf, T., Jolles, J. W., Bierbach, D., and Romanczuk, P. 2021: *Impact of Variable Speed on Collective Movement of Animal Groups.* Preprint available at: http://arxiv.org/abs/2106.00959. (under review).

Sbragaglia, V., Jolles, J. W., Coll, M., Arlinghaus, R. 2021: *Fisheries-induced changes of shoaling behaviour: Mechanisms and consequences.* Trends in Ecology and Evolution.

Jolles, J. W. 2021: *Broad-scale applications of the Raspberry Pi: A review and guide for biologists.* Methods Ecol. Evol., 2041–210X.13652. doi:10.1111/2041-210X.13652.

Jolles, J. 2020: pirecorder: *Controlled and automated image and video recording with the raspberry pi.* J. Open Source Softw. 5, 2584. doi:10.21105/joss.02584.

Jolles, J. W., Weimar, N., Landgraf, T., Romanczuk, P., Krause, J., and Bierbach, D. 2020: *Group-level patterns emerge from individual speed as revealed by an extremely social robotic fish.* Biol. Lett. 16, 20200436. doi:10.1098/rsbl.2020.0436.

Henri Kauhanen

Beavers, J., Everdell, M., Jerro, K., Kauhanen, H., Koontz-Garboden, A., LeBovidge, E. & Nichols, S. 2021: *States and changes-of-state: a cross-linguistic study of the roots of verbal meaning.* Language. *Vol. 97. Issue 3. doi: https://doi.org/10.1353/lan.0.0254*

Kauhanen, H., Gopal, D., Galla, T. & Bermúdez-Otero, R. 2021: *Geospatial distributions reflect temperatures of linguistic features.* Science Advances, 7, eabe6540. https://doi.org/10.1126/sciadv.abe6540

Kauhanen, H. 2020. Replicator–mutator dynamics of linguistic convergence and divergence. Royal Society Open Science, 7: 201682. https://doi.org/10.1098/rsos.201682

Cornelia Klocker

Klocker, C. 2021: *EU Military CSDP Operations,* UN Security Council Stoll, S.E.; Goelz, M.S.; Watolla, D.; Bauer, I.; Lunz, V.; Metsch, M.; Kath, P.; Loeser, A.; Schwarz, S.; Ruchay-Ploessl, A.; Klaasen van Husen, D.; Joebges, M.; Dettmers, C.; Randerath, J., 2021: *Fatigue und Fatigability bei Patienten mit Multipler Sklerose vor und nach kognitiver Belastung versus Entspannung – eine Pilotstudie.* Neurologie und Rehabilitation. 27/1: 23-30. doi: 10.14624/NR2101003

Authorisations and the Prohibition of the Use of Force: Exploring the Limits of the EU-UN Partnership, Europe and the World: A law review. (forthcoming).

Klocker, C. 2021: *Compensating victims of armed conflict: Evidence from the European Court of Human Rights,* in Human Rights and International Humanitarian Law: Challenges Ahead, Edward Elgar Publishing, eds. Norman Weiß and Andreas Zimmermann. (forthcoming).

Klocker, C. 2021: *Collective punishment,* in Elgar Encyclopedia of Human Rights, Edward Elgar Publishing, eds. Manfred Nowak, Jane A Hofbauer, Philipp Janig and Christina Binder. (forthcoming).

Klocker, C. 2021: *When do groups matter? Language use in the European Court of Human Rights and the collective dimension of non-discrimination cases,* Blog des Berliner Arbeitskreises Rechtswirklichkeit (24 November 2020), https://barblog.hypotheses.org/3819.

Gisela Kopp

Kopp, G.H., Sithaldeen, R., Trede, F., Grathwol, F., Roos, C., Zinner, D. 2021: Molecular phylogeny of baboons: what do incongruences among nuclear and mitochondrial patterns tell us? In: J Wallis (ed.) Baboons: Behaviour, Ecology, and Taxonomy. Cambridge University Press. (forthcoming).

Kopp, G.H., Kretschmer, R. 2020: Ein Tarif für Doktoranden? Ja – wir brauchen eine einheitliche Bezahlung für Promovierende! Die ZEIT 46/2020:41.

Claudius Kratochwil

Urban, S., Nater, A., Meyer, A., & Kratochwil, C. F. 2021: *Different sources of allelic variation drove repeated color pattern divergence in cichlid fishes.* Molecular Biology and Evolution, 38/2: 465-477.

Liang, Y., Grauvogl, M., Meyer, A., & Kratochwil, C. F. 2021: *Functional conservation and divergence of color-pattern-related agouti family genes in teleost fishes.* Journal of Experimental Zoology Part B: Molecular and Developmental Evolution.

Liang, Y., Meyer, A., & Kratochwil, C. F. 2020: *Neural innervation as a potential trigger of morphological color change and sexual dimorphism in cichlid fish.* Scientific reports, 10/1: 1-16.

Kratochwil, C. F., & Rijli, F. M. 2020: *The Cre/Lox System to Assess the Development of the Mouse Brain,* in Brain Development Humana, New York, NY. 491-512.

Liang, Y., Gerwin, J., Meyer, A., & Kratochwil, C. F. 2020: *Developmental and cellular basis of vertical bar color patterns in the East African Cichlid Fish Haplochromis latifasciatus.* Frontiers in cell and developmental biology, 8: 62.

Montiglio, P. O., Gotanda, K. M., Kratochwil, C. F., Laskowski, K. L., & Farine, D. R. 2020: *Hierarchically embedded interaction networks represent a missing link in the study of behavioural and community ecology.* Behavioural Ecology, 31/2: 279-286.

Kautt, A. F., Kratochwil, C. F., Nater, A., Machado-Schiaffino, G., Olave, M., Henning, F., ... & Meyer, A. 2020: *Contrasting signatures of genomic divergence during sympatric speciation.* Nature, 588/7836: 106-111.

Maheshwari, U., Kraus, D., Vilain, N., Holwerda, S. J., Cankovic, V., Maiorano, N. A., ... & Rijli, F. M. 2020: *Postmitotic Hoxa5 expression specifies pontine neuron positional identity and input connectivity of cortical afferent subsets.* Cell reports, 31/11: 107767.

Noelia Martínez Doallo

Martínez Doallo, N. 2021: *The Inalienability of Rights as the Holder's Disability (La inalienabilidad de los derechos como incompetencia del titular)*, Anuario de Filosofía del Derecho 37/1: 229-256.

Martínez Doallo, N. 2021: *The Patient's Right to Informed Consent. A Fundamental Rights-based Approach (El derecho al consentimiento informado del paciente. Una perspectiva iusfundamental),* Comares, Granada.

Martínez Doallo, N. 2020: *The Patient's Right to Informed Consent in the US Legal System. Genesis, Development, Foundations, and Brief Questioning Comparison with the Spanish Model (El consentimiento informado del paciente en los Estados Unidos de América. Génesis, evolución, fundamentos y breve comparación crítica con el modelo español)* Derecho y Salud 30/2: 57-83.

Morgane Nouvian

Lopez-Incera, A., Nouvian, M., Ried, K., Müller, T., Briegel, H.J. 2021: *Honeybee communication during colony defence is shaped by predation.* BMC Biology 19:106.

Jennifer Randerath

Randerath, J., Finkel, L., Shigaki, C., Burris, J., Nanda, A., Hwang, P., & Frey, S. H. 2021: *Is this within reach? Left but not right brain damage affects affordance judgment tendencies.* Frontiers in human neuroscience, 14/ 561.

Pust, G. E. A., Randerath, J., Goetzmann, L., Weierstall, R., Korzinski, M., Gold, S. M., Dettmers, C., Ruettner, B., & Schmidt, R. 2021: *Association of Fatigue Severity With Maladaptive Coping in Multiple Sclerosis: A Data-Driven Psychodynamic Perspective.* Frontiers in Neurology, 12/427.

Kroliczak, G., Buchwald, M., Kleka, P., Klichowski, M., Potok, W., Nowik, A. M., Randerath, J., & Piper, B. J. :2021: *Manual praxis and language-production networks, and their links to handedness.* Cortex.

Stoll, S.E.; Goelz, M.S.; Watolla, D.; Bauer, I.; Lunz, V.; Metsch, M.; Kath, P.; Loeser, A.; Schwarz, S.; Ruchay-Ploessl, A.; Klaasen van Husen, D.; Joebges, M.; Dettmers, C.; Randerath, J., 2021: *Fatigue und Fatigability bei Patienten mit Multipler Sklerose vor und nach kognitiver Belastung versus Entspannung - eine Pilotstudie.* Neurologie und Rehabilitation. 27/1: 23-30. doi: 10.14624/NR2101003

Randerath, Jennifer, 2020: *A Simple Illustration of a Left Lateralized Praxis Network,* Konstanz, Germany: Institutional Repository of the University of Konstanz.

Pust, G., Dettmers, C., Randerath, J., Rahn, A., Heesen, C., Schmidt, R., Gold, S., 2020: *Fatigue in Multiple Sclerosis is associated with childhood adversities.* Frontiers in Psychiatry 11: 811.

Cristina Ruiz Agudo

Marsiske, M.R., C. Debus, F. Di Lorenzo, E. Bernard, S.V. Churakov, and C. Ruiz-Agudo, 2021: *Immobilization of (Aqueous) Cations in Low pH M-S-H Cement.* Applied Sciences, 11/7. Available from: 10.3390/app11072968

Keckeis, P., E. Zeller, C. Jung, P. Besirske, F. Kirner, C. Ruiz-Agudo, H. Schlaad, and H. Cölfen, 2021: *Modular Toolkit of Multifunctional Block Copoly(2-oxazoline) s for the Synthesis of Nanoparticles,* Chemistry – A European Journal, 27/32: 8283-8287. Available from: 10.1002/chem.202101327

Ruiz-Agudo, E., C. Ruiz-Agudo, F. Di Lorenzo, P. Alvarez-Lloret, A. Ibañez-Velasco, and C. Rodriguez-Navarro, 2021: *Citrate Stabilizes Hydroxylapatite Precursors: Implications for Bone Mineralization,* ACS Biomaterials Science & Engineering, 7/6: 2346-2357. Available from: 10.1021/acsbiomaterials.1c00196

Ruiz-Agudo, C., A. Ibañez-Velasco and E. Ruiz-Agudo, 2021: *The role of amorphous P-bearing precursors on barite formation,* Geochemical Perspectives. (accepted).
C. Putnis, L. Wang, E. Ruiz-Agudo, C. Ruiz-Agudo and F. Renard 2021: *Crystallization via nonclassical pathways: Nanoscale imaging of mineral surfaces,* Crystallization via Nonclassical Pathways Vol II. (accepted).

Stephan Streuber

Quirós-Ramírez, M. A., Streuber, S., & Black, M. J. 2021: *Red shape, blue shape: political ideology influences the social perception of body shape.* Humanities and Social Sciences Communications, 8/1:1-10.

Assländer, L., & Streuber, S. 2020: *Virtual reality as a tool for balance research: Eyes open body sway is reproduced in photo-realistic, but not in abstract virtual scenes.* Plos one, 15/10, e0241479.

Rodrigues, J., Studer, E., Streuber, S., Meyer, N., & Sandi, C. 2020: *Locomotion in virtual environments predicts cardiovascular responsiveness to subsequent stressful challenges.* Nature communications, 11/1: 1-11.

Hoppe, M., Rossmy, B., Neumann, D. P., Streuber, S., Schmidt, A., & Machulla, T. K. 2020: *A human touch: Social touch increases the perceived human-likeness of agents in virtual reality.* In Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems. 1-11.

de la Rosa, S., Meilinger, T., Streuber, S., Saulton, A., Fademrecht, L., Quiros-Ramirez, M. A., ... & Cañal-Bruland, R. 2020: *Visual appearance modulates motor control in social interactions.* Acta Psychologica, 210/103168.

Julián Torres-Dowdall

Torres-Dowdall, J., Karagic, N., Härer, A., Meyer, A. 2021: *Diversity in visual sensitivity across Neotropical cichlid fishes via differential expression and intraretinal variation of opsin genes.* Molecular Ecology 30/8:1880-1891

Potter, T., Bassar, R.D., Bentzen, P., Ruell, E.W., Torres-Dowdall, J., Handelsman, C.A., Ghalambor, C.K., Travis, J., Reznick, D.N., Coulson, T 2021: *Environmental change, if unaccounted, prevents detection of cryptic evolution in a wild population.* The American Naturalist 197/1: 29-46.

Kautt, A.F., Kratochwil, C.F., Nater, A., Machado-Schiaffino, G., Olave, M., Henning, F., Torres-Dowdall, J., Härer, A., Hulsey, C.D., Franchini, P., Pippel, M., Myers, E.W.,804 Meyer, A. 2020: *Contrasting signatures of genomic divergence during sympatric speciation.* Nature 588/7836: 106-111.

Härer, A., Torres-Dowdall, J., Rometsch, S.J., Yohannes, E., Machado-Schiaffino, G., Meyer, A. 2020: *Parallel and non-parallel changes of the gut microbiota during trophic diversification in repeated young adaptive radiations of sympatric cichlid fish.* Microbiome 8:1-14.

Abena Yalley

Yalley, A. A. and Olutayo, M.S. 2020: Gender, Masculinity and Policing: An analysis of the implications of police masculinised culture on policing domestic violence in southern Ghana and Lagos, Nigeria, Social Science and Humanities open, 2/1 https://doi.org/10.1016/j.ssaho.2020.100077

Yalley, A. A. 2021: *Police intervention strategies for handling domestic violence in Ghana and Nigeria,* Cogent Social Science. (forthcoming).

Yalley, A. A. 2021: *In search of dignity: Review of literature on obstetric violence in Ghana,* Frontiers Public Health. (forthcoming).

Grants, Awards & Distinctions

External grants and awards secured by our fellows during the last academic year.

Ariane Bertogg
▪ German Research Foundation (DFG) in the context of the Cluster of Excellence "The Politics of Inequality". Project "COVID-19 Policies for Gender Equality (CoPE)". Co-PI together with Susanne Strauß, Tiziana Nazio, Mara Yerkes, 278,000 EUR (funding period 10/2021 – 09/2024)
▪ Annelies and August Karst-Stiftung. Funding for organizing the 2021 Online Divorce Network Conference 2021. 2,973 EUR, (funding period 04/2021 – 11/2021)
▪ Messmer Award 2021: "Social Aspects of Cognitive Ageing: The Role of Social Integration and Social Inequalities". The prize is endowed with 10,000 EUR and is intended to support researchers in their further scientific work.

Jacob Bloomfield
▪ University of East Anglia, Archives and Collections Visiting Fellowship, Drag. A British History, 2,500 GBP, expected 2022
▪ Waseda Institute for Advanced Study, Visiting Scholarship, (funding period 11/2021 – 01/2022)
▪ The Society for Theatre Research (STR), Research Grant, Drag. A British History, 600 GBP, awarded May 2021
▪ Institute of Historical Research (IHR), Scouloudi Historical Award: Publication Award for "Drag. A British History", 1,000 GBP

Klaus Boldt
▪ German Research Foundation (DFG) Heisenberg Programme, Rational Synthesis of Nanoheterostructures with Directional Properties, 502,500 EUR, (funding period 03/2022 – 02/2027)
▪ German Research Foundation (DFG) Individual Research Grant, Formation and Charge Carrier Dynamics of Hybrid I-III-VI_2 Nanoheterostructures, 193,284 EUR (funding period 03/2022 – 02/2025)

Svetlana Boycheva Woltering
▪ Humboldt Postdoctoral Fellowship prolongation (funding period 11/2020 – 02/2021)
▪ Funding for a co-PI project: "Identification and molecular characterization of novel autophagy regulators", as part of the ExStra-funded research initiative "Cellular Adaptation" consisting of one graduate student position in collaboration with Prof. Erika Isono. Ms. Niharika Savant Lerner has started her PhD at the beginning of July.

Panteleimon Eleftheriou
▪ EPSRC Early Career Fellowship, 847,541 GBP, University of Leeds, UK, (funding period 2021 – 2026)

Violeta Ivanova-Rohlin
▪ Member of project: "Groups and rings. Theory and applications", Project leader: Vesselin Drensky/ Ivan Chipchakov, Institute of Mathematics and Informatics, Bulgarian Academy of Sciences, funded by the Bulgarian National Science Fund.
▪ Member of project: "Algebraic and geometric data protection" Project leader: Professor Peter Boyvalenkov, Institute of Mathematics and Informatics, Bulgarian Academy of Sciences, funded by the Bulgarian National Science Fund.

Jolle Jolles
▪ Young Scholar Fund, field project in Catalunya to investigate the effects of drought on fish persistence (2 months), 3,920 EUR, University of Konstanz, 08/2020

Gisela Kopp
▪ Medium Money Grant, Centre for the Advanced Study of Collective Behaviour/University of Konstanz, 51,423 EUR (funding period 06/2021 – 12/2021)
▪ University of Konstanz, Flexible working conditions for Postdocs with Family Duties, 2,588 EUR, (funding period 02/2021 – 07/2021)
▪ Project funding "Knowledge of the Desert", Die Junge Akademie, 18,864 EUR, (funding period 2021-2022)
▪ Project funding "Diversity Initiative", Die Junge Akademie, 29,697, (funding period 2021 – 2022)

Morgane Nouvian
▪ Project grant "Neurobiology of social behaviour in insects", Centre for the Advanced Study of Collective Behaviour, 8,826 EUR, (funding period 05/2021-12/2021)

Jennifer Randerath
▪ Member of the Scientific Review Board at the German Society for Neuropsychology

Cristina Ruiz Agudo
▪ Messmer Award 2021: "Controlling M-S-H Crystallization for Building a Green Future". The prize is endowed with 10,000 EUR and is intended to support researchers in their further scientific work.

Stephan Streuber
▪ Co-applicant: Transfer Platform as part of the Excellence Strategy (University of Konstanz), "Augmented visual orientation cues for fall prevention (AVOC)", 159,288 EUR, (funding period 2021-2022)

Teaching

Carolin Antos-Kuby
Summer semester 2021: *Erklärungen in der Mathematik,* seminar, University of Vienna
Summer semester 2021: *Nichtklassische Logiken,* lecture, University of Vienna
Summer semester 2021: *Philosophie der mathematischen Praxis,* with Deborah Kant, seminar
Summer semester 2021: *Formale Logik,* seminar
Summer semester 2021: *Descartes' Meditationen,* with Leon Horsten, seminar
Summer semester 2021: *Mathematical logic: set theory and model theory,* with Prof. Salma Kuhlmann, seminar
Summer semester 2021: *Doktorandenkolloquium,* with Leon Horsten, seminar
Winter semester 2020/21: *Formale Logik,* seminar
Winter semester 2020/21: *Doktorandenkolloquium,* with Leon Horsten, seminar

Gruia Badescu
Summer semester 2021: *The Empire in the City: Habsburg and Ottoman urban worlds and their aftermath,* with Andreas Guidi
Winter semester 2020/21: *Cities and War: Destruction and Reconstruction in Twentieth Century Europe*

Jacob Bloomfield
Summer semester 2021: *Feminism, the Body and Visual Culture undergraduate course,* Bader International Study Centre/Queen's University (Kingston), Hailsham, UK
Winter semester 2020/2021: *A History of Drag,* Bishopsgate Institute, London, UK

Klaus Boldt
Winter semester 2020/21: *Current Issues and Methods in Nanoscience,* seminar
Winter semester 2020/21: *Fortgeschrittene Festkörperchemie,* lecture

Svetlana Boycheva Woltering
Summer semester 2021: *GWAS – Basic principle and application in plant biology,* lecture and practical work as part of VTK Physiology and Biochemistry of Plants

Panteleimon Eleftheriou
Winter semester 2020/21: *Topological and Differential Expansions of O-minimal Structures,* seminar

Violeta Ivanova-Rohling
Winter semester 2020/21: *Machine learning for quantum computing and quantum enhanced machine learning,* seminar
Winter semester 2020/21: Supervision of a master's project and internship

Cornelia Klocker
Summer semester 2021: *Interdisziplinäres Arbeiten (Interdisciplinary Working Methods),* guest lecture, research colloquium within the law department
Summer semester 2021: *Minority rights in Europe,* seminar

Gisela Kopp
Summer semester 2021: *Journal Club Behaviour and Genomics,* seminar
Summer semester 2021: *Sociality & Evolution within Evolutionary Organismal Biology,* lecture
Summer semester 2021: *Animal Sociality I & II,* seminar
Winter semester 2020/21: *Animal Sociality III & IV,* seminar

Morgane Nouvian
Summer semester 2021: *Pheromones and pheromone processing,* lecture
Summer semester 2021: Supervision of a bachelor's thesis and an Erasmus postgraduate internship
Winter semester 2020/21: *Honeybee physiology,* lecture, Veterinary School of Nantes (France)

Jennifer Randerath
Summer semester 2021: Supervision of over ten bachelor's and master's students and two doctoral students
Summer semester 2021: *Motor Cognition,* research colloquium
Winter semester 2020/21: *Motor Cognition,* research colloquium
Winter semester 2020/21: *Cognitive Neuro-Psychotherapy,* seminar

Cristina Ruiz Agudo
Summer semester 2021: *Materialanalytik,* seminar
Summer semester 2021: Supervision of two master's theses and two doctoral students
Winter semester 2020/21: *Nanochemistry and analytic,* seminar

Ariana Strandburg-Peshkin
Summer semester 2021: *Playing with data: Quantitative tools for behavioural ecologists,* seminar

Stephan Streuber
Winter semester 2020/21: *Virtual Reality for Mental Health Applications,* seminar

Julián Torres-Dowdall
Summer semester 2021: Supervision of two master's theses
Winter semester 2020/21: *Some assembly required,* seminar co-instructed with Joost Woltering
Winter semester 2020/21: *Population genetics,* lecture

People and Connections

Scientific Advisory Board

The Scientific Advisory Board consists of internationally renowned researchers and representatives from industry, arts and funding agencies from Germany and abroad. It is appointed by the Rectorate of the University of Konstanz.

Alexandra Brand

- Chief Sustainability Officer of Syngenta, Basel, Switzerland.
- Member of the University Council, University of Konstanz.

Michael John Hannon

- Professor and Chair of Chemical Biology, University of Birmingham, UK.
- Director of the EPSRC Research and Training Centre in Physical Sciences for Health, University of Birmingham, UK.
- President of the Society of Biological Inorganic Chemistry, USA.

Henrike Hartmann

- Head of the Executive Management of the Volkswagen Foundation, Hannover.
- Member of the Board of Trustees at various Max Planck Institutes and the Goethe University Frankfurt in addition to being a member of the Board of Directors at the Mathematisches Forschungsinstitut Oberwolfach (MFO, Oberwolfach Research Institute for Mathematics).
- Member of the University Council, University of Konstanz.

Thomas Hengartner †

- Director of Collegium Helveticum, Zurich, Switzerland
- Professor of Ethnology, University of Zurich, Switzerland.
- Vice Dean of Research of the Philosophical Faculty, University of Zurich, Switzerland.

Jean-Baptiste Joly

- Founding and Artistic Director of the artist residence Akademie Schloss Solitude from 1989 until 2018.
- Honorary Professor at the School of Art Weißensee, College of Design, Berlin.
- Board member of various foundations, including the Merkur Stiftung and Rudolf Eberle Stiftung.
- Member of the Board of Trustees of the Kunstmuseum Stuttgart, Member of the Advisory Board of Transcultural Exchange Boston, Member of the Board of Res Artis.

Rainer Maria Kiesow

- Professor of Law at École des Hautes Études en Sciences Sociales (EHESS), Paris, France.

Manuela Nocker

- Senior Lecturer in Organization and Sustainability, University of Essex, UK.

Dagmar Schmieder

- Former President of Kliniken Schmieder, Konstanz.
- Directorate of the Prof. Friedrich Schmieder Foundation.
- Founder of the Lurja Institute, University of Konstanz.
- Senator of Honour, University of Konstanz.

Dorothea Wagner

- Professor for Computer Sciences, University of Karlsruhe.
- Head of the German Research Council (Wissenschaftsrat), Cologne.

Senior Fellows & Artists / Journalists / Writers in Residence

Senior Fellows are established guest researchers from the natural sciences, humanities or social sciences who join the Zukunftskolleg for a research stay and work with our fellows. This support and inspiration are to mutual advantage: Senior Fellows profit from new impetus provided by the younger generation and vice versa. **Artists / Journalists / Writers in Residence** are established and creative minds in their field who join the Zukunftskolleg and work with the fellows. Their stay makes a valuable contribution to the development of creative thinking in interdisciplinary research at the Zukunftskolleg.

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

Irene Albers
Peter Szondi-Institut for Comparative Literature
Free University of Berlin, Germany
→ nominated by Johanna Kißler

Jeffrey-Alan Barrett
Department of Logic and Philosophy of Science
University of California, USA
→ nominated by Franz Huber

György Buzsáki
Langone Medical Center, Neuroscience Institute
New York University, 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, USA
→ nominated by Johanna Kißler

Cleo Condoravdi
Natural Language Theory and Technology Group
Stanford University, USA
→ nominated by Gerhart von Graevenitz

Nathaniel Dominy
Department of Biological Sciences,
Dartmouth College, Hanover, USA
→ nominated by Gisela Kopp

Mark Dykman
Department of Physics and Astronomy
Michigan State University, USA
→ nominated by Gianluca Rastelli

Marcia Esparza
Department of Criminal Justice
John Jay College of Criminal Justice, New York, USA
→ nominated by Nina Schneider

Christoph Fehige
Institute for Philosophy
Saarland University, Germany
→ nominated by Attila Tanyi

Bernard Frischer
Department of Informatics
Indiana University, Bloomington, USA
→ nominated by Karsten Lambers

Peter Gärdenfors
Department of Philosophy
Lund University, Sweden
→ nominated by Brendan Balcerak Jackson

Julian D. Gale
Department of Chemistry
Curtin University, Perth, Australia
→ nominated by Denis Gebauer

Daniel R. Gamelin
Department of Chemistry
University of Washington, USA
→ nominated by Rudolf Bratschitsch

Dimitri Ginev
Department of Philosophy
University of Sofia, Bulgaria
→ nominated by Jeff Kochan

Leonid Glazman
Department of Physics
Yale University, USA
→ nominated by Gianluca Rastelli

Adelheid Godt
Department of Chemistry
University of Bielefeld, Germany
→ nominated by Malte Drescher

Joachim Gross
Institute of Neuroscience & Psychology
University of Glasgow, UK
→ nominated by Nathan Weisz

David Gugerli
Instiute of History
ETH Zurich, Switzerland
→ nominated by Gerhart von Graevenitz

Joseph Y. Halpern
Department of Computer Science
Cornell University, USA
→ nominated by Franz Huber

Irene Heim
Department of Linguistics and Philosophy
MIT, Cambridge, USA
→ nominated by Doris Penka

Klaus von Heusinger
Department of German Language and Literature
University of Cologne, Germany
→ nominated by Gerhart von Graevenitz

Sabine von Heusinger
Department of History
University of Cologne, Germany
→ nominated by Gerhart von Graevenitz

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

Gunnar Jeschke
Department of Chemistry and Applied Biosciences
ETH Zurich, Switzerland
→ nominated by Malte Drescher

Viktor V. Kabanov
Department for Complex Matter
Jozef Stefan Institute, Ljubljana, Slovenia
→ nominated by Jure Demsar

Paul Kiparsky
Department of Linguistics
Stanford University, USA
→ nominated by Chiara Gianollo

Arthur Kramer
Department Psychology
University of Illinois Urbana-Champaign, USA
→ nominated by Iris-Tatjana Kolassa

David Leep
Department of Mathematics
University of Kentucky, USA
→ nominated by Karim Becher

Eric Lott
English and American Studies
City University of New York Graduate Center, USA
→ nominated by Jacob Bloomfield

Yaron Matras
School of Languages, Linguistics and Cultures
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
Free University of Berlin, Germany
→ nominated by Andreas Thum

Gregory A. Miller
Departments of Psychology
University of Illinois Urbana-Champaign, USA
→ nominated by Johanna Kißler, Iris-Tatjana Kolassa and Nathan Weisz

Frank Moorhouse (Writer in Residence)
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
University of Edinburgh, UK
→ nominated by Thomas Voigtmann

Paul Rozin
Department of Psychology
University of Pennsylvania, USA
→ nominated by Gudrun Sprösser

Alexander Schellow (Artist in Residence)
Freelance artist
Berlin, Germany
→ nominated by David Ganz and Zsuzsanna Török

Heike Schmoll
(Journalist in Residence)
Journalist
Frankfurter Allgemeine Zeitung (FAZ), 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, USA
→ nominated by Andreas Thum

David Sobel
Department of Philosophy
Syracuse University, New York, USA
→ nominated by Attila Tanyi

Patrick Speissegger
Dept. of Mathematics & Statistics
McMaster University, Ontario, Canada
→ nominated by Margaret Thomas

Hari Sridhar
(Writer in Residence)
National Centre for Biological Sciences
Bangalore, India
→ nominated by Gisela Kopp

Vinod Subramaniam
Rector Magnificus
Free University of Amsterdam, Netherlands
→ nominated by Malte Drescher

Babu Thaliath
School of Language, Literature & Culture Studies, Centre of German Studies
Jawaharlal Nehru University, New Delhi, India
→ upon application and hosted by Carolin Antos-Kuby

Jean-Pierre Tignol
Department of Mathematics
University of Louvain, Belgium
→ nominated by Karim Becher

Patrick Tresset
(Artist in Residence)
Freelance artist
London, UK
→ nominated by Giovanni Galizia

Graham Underwood
School of Life Sciences,
University of Essex, UK
→ upon application and hosted by Bernard Lepetit

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

Two new Senior Fellows have joined the Zukunftskolleg in the 2021 summer semester for a period of 12 months: Professor Graham Underwood (School of Life Sciences, University of Essex, UK) and Babu Thaliath (School of Language, Literature & Culture Studies, Centre of German Studies, Jawaharlal Nehru University, New Delhi, India).

Graham Underwood's research centres on algal biofilms and their role in ecology, ecosystem functioning and biogeochemistry. "The option to come to Konstanz and develop some of my areas of interest with excellent colleagues is too good an opportunity to miss," says Underwood. He will collaborate in particular with Bernard Lepetit (Biology): "Bernard's research specialisms around photosynthesis and regulation in diatoms (often using key model species) and his knowledge and experience of experimental approaches to investigate mechanisms of control and underlying molecular biology are of great interest to me," explains Underwood. "Linking his expertise with mine will help us ask some really new questions around cell sensing and behaviour."

During his stay at the Zukunftskolleg, Babu Thaliath aims to intensify his work on a research project in the field of philosophy and philosophy of science with the general topic: The Historicity of Axioms. The historicizing effect of mathematical formalism on the axiomatization of early modern sciences. "This project, which is in its initial phase, requires an extensive collection of materials, review of the premises, scientific contexts, methodology and, above all, the necessary consultation with the subject experts," says Thaliath. "Carolin Antos-Kuby (Philosophy), who works on the axiomatic set theory, will give me an adequate opportunity to become more familiar with the interdisciplinary research at the Zukunftskolleg between philosophy and mathematics with regard to its theoretical-axiomatic foundations and their historical development."

The Senior Fellowship programme of the Zukunftskolleg is designed to bring together excellent scholars from all countries and disciplines and to strengthen the intergenerational scientific dialogue between postdoctoral and established researchers.

Associated Fellows

Associated Members of the Zukunftskolleg are project staff, doctoral researchers and external cooperation partners of the fellows and Senior Fellows. Associated Fellowships are granted for the duration of one year upon application only. Beneficiaries of the Zukunftskolleg´s funding programmes or members of the University of Konstanz whose field of work is related to that of the research units represented in the Zukunftskolleg can also apply for an Associated Fellowship.

Thomas Böttcher
Dept. of Chemistry
upon application

Julia Boll
Dept. of Literature
upon application

Daniele Brida (Associated Fellow until 03/2021)
Dept. of Physics
upon application

María Cruz Berrocal
Dept. of History and Sociology
upon application

Jeff Kochan
Dept. of Philosophy
upon application

Sebastian Krapp
Dept. of Mathematics and Statistics
upon application

Ana Isabel López-García
Dept. of Politics and Public Administration
upon application

Javier Martinez-Canto
Dept. of Politics and Public Administration
upon application

Doris Penka
Dept. of Linguistics
upon application

Dennis Pingen
Dept. of Chemistry
upon application

Alejandra Quirós-Ramirez
Dept. of Computer and Information Science
upon application

Philip Rathgeb
Dept. of Politics and Public Administration
upon application

Andreas Spitz
Dept. of Computer and Information Science
upon application

Elena Sturm
Dept. of Chemistry
upon application

Susanne Wißhak
Dept. of Economics
upon application

Katharina Zahner-Ritter
Dept. of Linguistics
Mentorship

Maria Zhukova
Dept. of Literature
upon application

ZUKOnnect Fellows

In 2019, the Zukunftskolleg introduced ZUKOnnect Fellowships to support early career researchers from Africa, Asia and Latin America. The new fellowships strengthen the cultural diversity at the Zukunftskolleg and stimulate the intellectual and integrative discourse amongst its fellows. By broadening its academic horizons, the Zukunftskolleg aims to promote greater intercontinental dialogue in research.

The following **ZUKOnnect Fellows** joined the Zukunftskolleg **digitally on 1 October 2020,** followed by an **on-campus stay** for 3 to 4 months **from April 2021:**

Giovanna Rodriguez-Garcia
Dept. of Politics and Public Administration
ZUKOnnect Fellowship
Local host: Christian Breunig

Krizler Tanalgo
Dept. of Biology
ZUKOnnect Fellowship
Local host: Margaret Crofoot

Josiah Taru (up to now no on-campus stay)
Dept. of History and Socoiology
ZUKOnnect Fellowship
Local host: Thomas Kirsch

Afrasa Mulatu Urge
Dept. of Biology
ZUKOnnect Fellowship
Local host: Eriksa Isono & Dieter Spiteller

Vishwanath Varma
Dept. of Biology
ZUKOnnect Fellowship
Local host: Iain Couzin

Alumni

The Zukunftskolleg's purpose is to provide early career researchers with everything they need to build an academic career. The careers of former members show that we are on the right track. (This list includes fellows who joined the Zentrum für den wissenschaftlichen Nachwuchs [ZWN] and built the first community of the Zukunftskolleg.)

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

Unai Atxitia Macizo (2014 – 2016)
Junior Research Group Leader, Department of Physics
FU Berlin, Germany

Tuhin Shuvra Basu (2015–2019)
JSPS Postdoctoral Fellow
NIMS, Tsukuba, Japan

Brendan Balcerak Jackson (2014–2015)
Assistant Professor at the Dept. of Philosophy
University of Miami, USA

Magdalena Balcerak Jackson (2013–2015)
Assistant Professor at the Dept. of Philosophy
University of Miami, USA

Michael W. Bauer (2005–2009)
Professor at the Department of Public Administration
University of Administrative Sciences, Speyer, Germany

Karim J. Becher (2008–2013)
Professor at the Dept. of Mathematics and Computer Sciences
University of Antwerp, Belgium

Janina Beiser-McGrath (2016–2019)
Lecturer in Politics and International Relations (Quantitative Methods) at the Centre for International Security at Royal Holloway
University of London, UK

Gunhild Berg (2009–2013)
Researcher and project leader in the [D-3] Project
Martin Luther University Halle-Wittenberg, Germany

Julien Bernard (2013–2015)
Maître de conférences at the Dept. of Philosophy
University of Aix-Marseille, France

Francesca Biagioli (2014–2017)
Researcher at the Dept. of Philosophy
University of Turin, Italy

Steffen Bogen (2006–2010)
Lecturer for the Science of Art at the Department of Literature
University of Konstanz, Germany

Luc Bovens (2002-2005)
Professor at the Core Faculty, Philosophy, Politics and Economics Program
University of North Carolina at Chapel Hill, USA

Rudolf Bratschitsch (2007–2010)
Professor at the Institute of Physics
University of Münster, Germany

Daniele Brida (2013-2021)
Full Professor in Experimental Condensed Matter Physics
University of Luxembourg

Martin Bruder (2010–2013)
Head of Dept.
German Institute for Development Evaluation (Deval), Bonn, Germany

Joanna Chojnicka (2013–2015)
Research Fellow at the Faculty of Linguistics and Literary Studies
University of Bremen, Germany

Monika Class (2014–2016)
Junior Professor at the Dept. of English and Linguistics
University of Mainz, Germany

Eleanor Coghill (2010–2016)
Professor at the Dept. of Linguistics and Philology
University of Uppsala, Sweden

Maité Crespo Garcia (2014–2016)
Newton International Fellow,
University of Cambridge, UK

Sarang Dalal (2011–2015)
Professor at the Center of Functionally Integrative Neuroscience
Aarhus University, Denmark

Martin Dege (2014–2016)
Assistant Professor at the Dept. of Psychology
Pratt Institute New York, USA

Udith Dematagoda (2017-2020)
Assistant Professor at the Waseda Institute for Advanced Study
Tokyo, Japan

Jure Demsar (2007–2012)
Professor at the Dept. of Physics
Johannes Gutenberg University, Mainz, Germany

Malte Drescher (2008-2013)
Vice Rector for Research and Academic Staff Development
Professor for Physical Chemistry at the Department of Chemistry
University of Konstanz, Germany

Panteleimon Eleftheriou (2015-2021)
EPSRC Early Career Fellow
University of Leeds, UK

Martin Elff (2013–2015)
Professor and Chair of the Dept. of Political Sociology
Zeppelin University, Friedrichshafen, Germany

Arthur Erbe (2006–2009)
Head of Dept. "Skalierungssphänomene"
Helmholtz-Zentrum Dresden-Rossendorf, Germany

Carsten Eulitz (2001-2004)
Head of the Dept. of Linguistics
University of Konstanz, Germany

Benjamin Eva (2019-2020)
Assistant Professor of Philosophy, Dept. of Philosophy
Duke University in Durham, USA

Thomas E. Exner (2007–2012)
Chief Scientific Officer (CSO) at Douglas Connect
Basel, Switzerland

Katherine Fama (2015–2016)
Assistant Professor at the School of English, Drama & Film
University College, Dublin, Ireland

Wolfgang Freitag (2006–2011)
Professor of Theoretical Philosophy/Philosophy of Language
University of Mannheim, Germany

David Ganz (2007–2012)
Professor at the Dept. of Art History
University of Zurich, Switzerland

Denis Gebauer (2014–2019)
Professor at the Institute of Inorganic Chemistry
Leibniz University Hannover, Germany

Chiara Gianollo (2008–2011)
Associate Professor at the Dept. of Classical Philology and Italian Studies
University of Bologna, Italy

Thomas Gisler (2004–2009)
Senior Scientist Spectroscopy
Metrohm AG, Herisau, Switzerland

James Griffiths (2016-2018)
Professor in English Linguistics at the Dept. of Modern Languages
University of Tübingen, Germany

Helen Gunter (2008–2014)
Project Manager at Edinburgh Genomics
University of Edinbourgh, UK

Roxana Halbleib (2013-2020)
Professor for Statistics and Econometrics at the Institute of Economics
University of Freiburg, Germany

Simon Hanslmayr (2010–2013)
Professor (Centre for Cognitive Neuroimaging)
University of Glasgow, UK

Jörg S. Hartig (2007–2011)
Professor at the Dept. of Chemistry
University of Konstanz, Germany

Stephan Hartmann (2002-2005)
Chair and Head of the Munich Center for Mathematical Philosophy
LMU Munich, Germany

Tamir Hassan (2013–2014)
Automated Publishing Researcher
Hewlett-Packard Laboratories, Vienna, Austria

Barbara Hausmair (2014–2016)
Assistant Professor for Medieval and Modern Period Archaeology
University of Innsbruck, Austria

Anne Hauswald (2008–2012)
Senior Scientist at the Centre of Cognitive Neuroscience (CCNS)
University of Salzburg, Austria

Corinna Hermann (2002–2008)
Dept. of Immunology/Global Preclinical R&D
Baxter Innovations, Vienna, Austria

Franz Huber (2008–2012)
Associate Professor at
University of Toronto
Toronto, Canada

Wolf Hütteroth (2014–2017)
Group leader at the Dept. of Genetics
University of Leipzig, Germany

Laura Iapichino (2013–2015)
Assistant Professor at the Dept. of Mathematics and Computer Science

Eindhoven University of Technology, Netherlands

Zhongbao Jian (2013–2015)
Professor at the Changchun Institute of Applied Chemistry
Chinese Academy Of Sciences, China

Georg Jochum (2003–2008)
Chair for Public Law, Tax and European Law, and Regulatory Law
Zeppelin University, Friedrichshafen, Germany

Jolle Jolles (2018-2021)
Postdoctoral researcher at the Centre for Ecological Research and Forestry Applications
CREAF Research Institute in Barcelona, Spain

Julia Jones (2008–2013)
Lecturer/Assistant Professor (Ad Astra Fellow)
University College Dublin, Ireland

Markus Junghöfer (2002-2005)
Professor at the Institute for Biomagnetism and Biosignalanalysis
University of Münster, Germany

Andreas Karrenbauer (2010–2012)
Senior Researcher at the Dept. of Informatics
Max Planck Institute, Saarbrücken, Germany

Young Dok Kim (2002-2006)
Professor at the Dept. of Chemistry
Sungkyunkwan University, Korea

Johanna Maria Kißler (2003–2010)
Professor at the Dept. of Psychology and Physical Education
University of Bielefeld, Germany

Matthias Kläui (2006–2010)
Professor at the Institute of Physics
Johannes Gutenberg University, Mainz, Germany

Iris-Tatjana Kolassa (2006–2010)
Professor at the Institute of Psychology and Education
University of Ulm, Germany

Claudius Kratochwil (2013-2020)
Group leader at the Institute of Biotechnology
University of Helsinki

Albert Kümmel-Schnur (2006–2011)
Lecturer at the Dept. of Literature
University of Konstanz, Germany

Oleksandra Kukharenko (2015-2019)
Group leader in the Theory Dept.
Max Planck Institute for Polymer Research, Mainz, Germany

Takayuki Kurihara (2018-2020)
Assistant Professor at the Laser and Synchrotron Research Centre (LASOR)
Institute for Solid State Physics of the University, Tokyo, Japan

Andrea Lailach-Hennrich (2013-2018)
Lecturer at the Dept. of Politics and Public Administration
University of Konstanz, Germany

Karsten Lambers (2008–2013)
Associate Professor at the Dept. of Archaeology
University of Leiden, Netherlands

Benjamin Lambert (2013–2017)
Postdoctoral Researcher at the Dept. of Mathematics
TU Darmstadt, Germany

Julia Langkau (2013–2016)
Lecturer at the CODE University of Applied Sciences Berlin, Germany

Elliott Lash (2014–2016)
Postdoctoral Researcher at the Faculty of Humanities / Dept. of Linguistics
University of Göttingen, Germany

Daniel Legler (2004–2009)
Professor and Group Leader at the Biotechnology Institute Thurgau
University of Konstanz, Germany

Philipp Leifeld (2013–2015)
Professor at the Dept. of Government
University of Essex, UK

Bernard Lepetit (2013-2018)
Researcher at the Dept. of Biology
University of Konstanz, Germany

Shujun Li (2008–2011)
Professor of Cyber Security at the School of Computing and Interdisciplinary Research Centre
University of Kent, UK

Anna Lipphart (2008 – 2010)
Professor at the Institute of Cultural Anthropology and Folkloristic
University of Freiburg, Germany

Alexander Lvovsky (2001-2004)
Professor at the Dept. of Physics
University of Oxford, UK

Kirsten Mahlke (2002–2008)
Professor at the Dept. of Literature
University of Konstanz, Germany

Marilena Manea (2008–2013)
Chemist at Chromsystems Instruments & Chemicals GmbH
Munich, Germany

Elisa May (2004-2007)
Professor at the Dept. of Biology
University of Konstanz, Germany

Judith Meinschaefer (2001-2002)
Professor for Gallo-Roman Linguistics
FU Berlin, Germany

Matteo Morganti (2008–2010)
Associate Professor at the Dept. of Philosophy
University of Rome, Italy

Frank Neuner (2007–2008)
Professor at the Dept. of Clinical Psychology and Psychotherapy
University of Bielefeld,Germany

Peter Öhlschläger (2007–2011)
Professor at the Dept. of Chemistry and Biotechnology
University of Applied Sciences, Aachen, Germany

Michael Teague O'Mara (2013 – 2017)
Assistant Professor at the Dept. of Biological Sciences
Southeastern Louisiana University, USA

Markus Oberthaler (2001-2002)
Professor at the Dept. of Physics
University of Heidelberg, Germany

Michael Pester (2014–2017)
Professor at the Institute of Microorganisms
TU Braunschweig
Head of the Dept. of Microorganisms
Leibniz Institute DSMZ-German Collection of Microorganisms and Cell Cultures, Germany

Achim Peters (2001-2002)
Head of Dept. of Optical Metrology
HU Berlin, Germany

Niels P. Petersson (2003–2008)
Professor at the Faculty of Development and Society
Sheffield Hallam University, UK

Torsten Pietsch (2013–2018)
Project Leader in Research & Development
ZEISS Group, Germany

Dennis Pingen (2016–2018)
Dept. of Chemistry
University of Konstanz, Germany

Daniel Plaumann (2013–2016)
Professor at the Faculty of Mathematics
TU Dortmund University, Germany

Anton Plech (2002–2008)
Group Leader and Deputy Department Leader at the Institute for Synchroton Radiation (ISS)
KIT Institute of Technology, Karlsruhe, Germany

Maria Daniela Poli (2015–2017)
Associate Lawyer at Arendt & Medernach
Luxembourg

Beatriz Puente Ballesteros (2013–2015)
Assistant Professor at the Dept. of History
University of Macau, China

Gianluca Rastelli (2015-2020)
Permanent Researcher
National Research Council (CNR), Italy

Henning Reetz (2001-2005)
Professor at the Institute for Phonetics
Goethe University Frankfurt, Germany

Sven Reichardt (2007–2011)
Professor for Contemporary History at the Dept. of History and Sociology
University of Konstanz, Germany

Karsten Rinke (2008–2013)
Head of the Dept. of Lake Research
Helmholtz-Centre for Environmental Research, Magdeburg, Germany

Tanja Rinker (2009-2017)
Professor for German as a Foreign Language/Didactics of German as a Second Language
Catholic University of Eichstätt-Ingolstadt, Germany

Antonio Rotolo (2014–2016)
Founder and CEO
Ludwig.guru

Paraskevi Salamaliki (2013–2015)
Assistant Professor in Macroeconomics
University of Ioannina, Greece

Walter Salzburger (2005-2006)
Professor at the Dept. of Environmental Sciences
University of Basel, Switzerland

Samuel Schindler (2009–2011)
Associate Professor at the Centre for Science Studies
Aarhus University, Netherlands

Nina Schneider (2013–2015)
Research group leader
Käte Hamburger Kolleg | Centre for Global Cooperation Research, Duisburg, Germany

Matthias Schöning (2003–2008)
Lecturer at the Dept. of Literature
University of Konstanz, Germany

Sebastian Schutte (2014–2018)
Senior Researcher at the Dept. Conditions of Violence and Peace
Peace Research Institute Oslo, Norway

Denis Seletskiy (2013–2017)
Assistant Professor at the Dept. of Engineering Physics
Polytechnique Montréal, Canada

Ilja Serzants (2013–2015)
Professor for Slavic Linguistics with a focus on historical linguistics
Kiel University, Germany

Minmin Shen (2013–2017)
Applied Scientist
Amazon.com Inc., USA

Ulrich Sieberer (2011–2016)
Professor of Empirical Political Science
Director of Bamberg Graduate School of Social Sciences (BAGSS)
University of Bamberg, Germany

Aline Steinbrecher Frei (2013–2015)
Lecturer, Historisches Seminar
University of Zurich, Switzerland

Margarita Stolarova (2009–2015)
Group Leader for Childhood Education
German Youth Institute, Munich, Germany

Daniel Summerer (2011–2015)
Professor at the Dept. of Chemical Biology
TU Dortmund University, Germany

Edina Szöcsik (2013–2015)
Senior Research Fellow (SNF Ambizione Grantee) at the Department of Political Science
University of Basel, Switzerland

Jolene Tan (2018–2019)
User Experience Researcher
AirHelp, Berlin, Germany

Attila Tanyi (2010–2013)
Associate Professor at the Dept. of Philosophy
University of Tromsø, Norway

Margaret Thomas (2011–2018)
Assistant Professor at the Dept. of Mathematics
Purdue University, USA

Andreas S. Thum (2011–2017)
Professor for Genetics at the Dept. of Biology
University of Leipzig, Germany

Alexander Titz (2010–2013)
Professor for Organic and Pharmaceutical Chemistry
Helmholtz Institute for Pharmaceutical Research, Saarland University, Germany

Borbála Zsuzsanna Möller-Török (2009–2017)
Senior Research Fellow
Käte Hamburger Kolleg / Centre for Global Cooperation Research, Duisburg, Germany

Tilman Triphan (2016–2018)
Researcher at the Dept. of Genetics
University of Leipzig, Germany

Grey Violet (2015–2017)

Thomas Voigtmann (2009–2014)
Professor at the Institute of Theoretical Physics
University of Düsseldorf, Germany

Sonja von Aulock (2007–2011)
Editor-in-Chief at ALTEX – Alternatives to Animal Experimentation
Küsnacht, Switzerland

Nadir Weber (2016–2018)
Head of the SNF Ambizione Project “Falken in der Höfischen Gesellschaft” at the Institute of History
University of Bern, Switzerland

Nils B. Weidmann (2013–2015)
Professor at the Dept. of Politics and Public Administration
University of Konstanz, Germany

Nathan Weisz (2008–2012)
Professor at the Centre for Cognitive Neuroscience
University of Salzburg, Austria

Leila Whitley (2016–2018)
Lecturer in Critical Gender Studies
University of California, USA

Filip Wojciechowski (2013–2014)
Synthetic Organic Chemist at Gl Chemtec International Ltd.
Oakville, Canada

Dominik Wöll (2008–2014)
Full Professor (W2) in Physical Chemistry (Condensed matter spectroscopy)
RWTH Aachen University, Germany

Legal Notice

Zukunftskolleg
University of Konstanz
Box 216
78457 Konstanz / Germany

Phone 0049 (0)7531 88-4819
Email zukunftskolleg-pr@uni-konstanz.de
Web uni.kn/zukunftskolleg

Editorial Staff
Sigrid Elmer (responsible),
Livia Hofmann, Daniela Kromrey, Anda Lohan,
Mihaela Mihaylova, Maren Weiler

Proofreading
Sharon Oranski, ORANSKI Übersetzungen

Graphic Design
Annabelle Flaig-Höpfer, annabellehoepfer.de
Isabell Schmidt-Borzel, isabellschmidt.de

Picture Credits
University of Konstanz

Print
Hartmanndruck und Medien GmbH, Hilzingen

Network Memberships

The Zukunftskolleg is a member of two international networks: NetIAS (Network of European Institutes for Advanced Study) and UBIAS (University-Based Institutes for Advanced Study). These memberships create links to partners around Europe and throughout the world – they foster networking between similar institutes in the search for new ideas and best practices. For Zukunftskolleg fellows, this facilitates direct contact to renowned institutes worldwide.

NetIAS

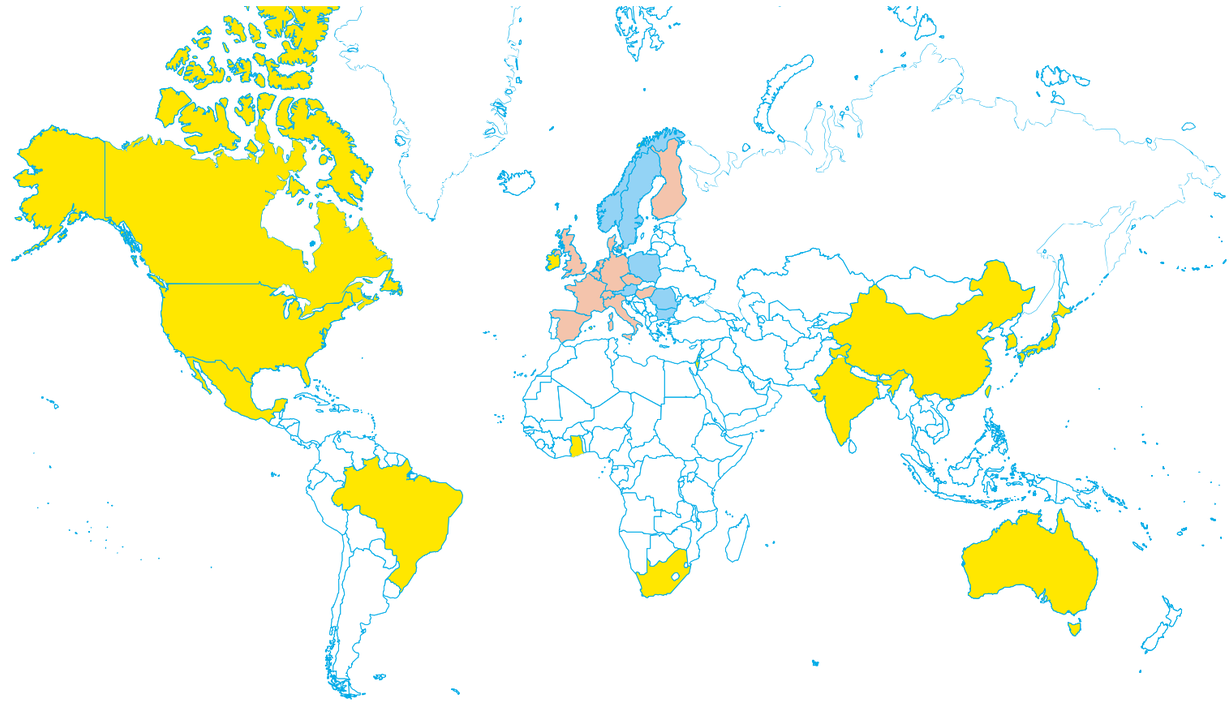
Network of European Institutes for Advanced Study

NetIAS brings together 25 Institutes for Advanced Study across Europe. It was created in 2004 to stimulate a dialogue on IAS practices and possible forms of cooperation. NetIAS members share the objective of creating international and multidisciplinary learning communities. This openness and the freedom the fellows enjoy for their researches serve to promote scientific and intellectual exchanges. IAS tend to break from the intellectual routines, thus fostering the emergence of new perspectives, approaches and paradigms. While sharing a common vision concerning the freedom of research, and representing an alternative to the national institutions of higher education and research, the IAS offer a considerable diversity in terms of fellowship conditions. Furthermore, their scientific policies are characterized by different thematic or geographical orientations, a diverse openness to natural and hard sciences, or a special commitment to promoting early career researchers. As one of the areas most tangibly affected by the current COVID-19 pandemic is the international mobility of academics and researchers, the network published a joint statement on the "Institutes for Advanced Study and the current pandemic – Potentials and capacities for the European Research Area" in November 2020.
One of the potentials can be seen in the virtual NetIAS Lectures Series on "Borders" that defined the overarching theme for the series in the summer of 2020 and involved Zukunftskolleg Fellow Thomas Böttcher.

UBIAS

University-Based Institutes for Advanced Study

UBIAS is a network of 51 university-based Institutes for Advanced Study worldwide. Initiated in 2010, the network was established to enable structured forms of exchange in this growing segment, including biennial conferences and joint programmes between partner institutes. Unlike traditional Institutes for Advanced Study, UBIAS institutes are associated with or embedded within a university, and actively contribute to the academic culture and the scientific achievements of their home university. UBIAS is committed to equality, inclusivity and diversity. Hosted by IMéRA at Aix-Marseille University, the agenda of this year's biennial meeting included lectures on "Rethinking Societies for the 21st Century: Ecology, Social Progress and Democracy and Nurturing a True Dialogue Between Science and Humanities". During the Directors' Business Meeting, the election of new Steering Committee members took place. Giovanni Galizia was nominated and elected. (The Steering Committee is responsible for identifying overarching themes and objectives for the biennial conferences as well as for approaching the institute that will host the UBIAS conference. Further, the Committee processes membership requests and applications. The Steering Committee also selects three main coordinators of the UBIAS network, the 'Triumvirate', from amongst its members.)



Cooperation Partners

The Zukunftskolleg works closely with various institutions in Germany and around the world. This collaboration not only advances scientific dialogue at academic level but also enhances knowledge communication with the public. Exchange on organizational matters helps to further develop the concept of the Zukunftskolleg on a continuous basis. Cooperation with major academic institutions as hosts for Zukunftskolleg fellows fosters networking and exchange of experience, stimulating collaborative projects and international research partnerships in the process.

NATIONAL COOPERATION PARTNERS

Akademie Schloss Solitude (Stuttgart)

With its international programmes, the Akademie Schloss Solitude supports young and particularly gifted artists. Apart from those, also scientists of such disciplines as Music or Arts are welcome to apply for scholarships. The Schloss Solitude is not only a place for artistic and scientific exchange, but also a possibility for young scientists and artists to retire from their daily life. This way Zukunftskolleg Fellows are given the opportunity to attend a retreat from one up to three months' time.

Baden-Würtemberg-Stiftung (Stuttgart)

The Eliteprogramm für Postdoktorandinnen und Postdoktoranden addresses outstanding young researchers. With this programme the Baden-Württemberg Stiftung supports annually around 20 postdoctoral candidates financially, who aim to pursue their research at a university within the federal state of Baden-Württemberg and who have made it their home base. A number of Zukunftskolleg Fellows have already received the institution's support.

Hector Foundation (Weinheim)

The foundation supports medical research, provides assistance to social programmes – especially in regard to disabled persons – and funds artistic and cultural projects. A further focus is the support of gifted young people, especially in the natural sciences and mathematics. In this context, the Hector Foundation II finances the Hector Pioneer Fellowship of the Zukunftskolleg.

Hegau-Bodensee-Seminar (Konstanz)

The Hegau-Bodensee Seminar offers interested high school pupils a possibility to take advantage of further education beyond school contents. Supported by lectures, workshops and excursions the pupils tackle chosen topics in collaborating working groups. "University Day" is a fixed part of the Hegau-Bodensee Seminar, which provides the chance for pupils to do research directly with scientists and experience recent research done at universities at eye level. Since 2010, Zukunftskolleg Fellows regularly hold lectures and seminars in the framework of the University Day. In 2021, the topic was "Collective Bahaviour" with a workshop on "Movement Patterns in the Brain" by Research Fellow Armin Bahl.

Lindau Nobel Laureate Meetings (Lindau)

The annual Lindau Nobel Laureate Meeting is a worldwide recognized forum for the exchange between generations and scientists. Young scientists are chosen from a worldwide network of academic partners in order to participate in panel discussions, seminars and other forms of communication connected to the event. This way the aspiring generation receives a unique opportunity to meet and network with Nobel laureates for Physics, Chemistry, Medicine and Economics. The Zukunftskolleg is a partner of this meeting and fellows are regularly nominated to join the event.

Manfred Ulmer-Stiftung für Wissenschaft und Gesellschaft at the University of Konstanz (Konstanz)

The foundation "Manfred Ulmer-Stiftung für Wissenschaft und Gesellschaft" at the University of Konstanz was founded in 1979 by Manfred Ulmer, an entrepreneur based in Spaichingen, donor to a wide variety of causes and honorary consul. The initial endowment capital was 150,000 German marks. Over the years and as the result of generous donations, the endowment capital has grown to almost 250,000 euros that are used to support and initiate projects promoting the common good.
In line with its statutes, the foundation supports the work of the university's early career researchers in the areas of teaching and research, and, to this end, also offers significant prizes and awards. The longstanding Manfred-Ulmer-Stipendium (scholarship) awarded by the foundation was used to fund the very first ZUKOnnect Fellow.

University of Konstanz Society (Konstanz)

As a registered charity, the University of Konstanz Society (UGK) supports the university in various areas:
- Research and teaching,
- University institutions,
- Continued education and training programmes,
- International exchange among researchers and students,
- Relations with the City of Konstanz and the international Lake Constance region,
- Students and junior researchers

In short, the University of Konstanz Society provides support whenever and wherever the university itself cannot. In 2021, the Zukunftskolleg established a "Bridging Fund" for the fellows of the Zukunftskolleg with funds from the UGK which eases to ease the starting conditions of fellows (with financial disadvantages) in Konstanz.

INTERNATIONAL COOPERATION PARTNERS

a. Alexandru Ioan Cuza University of Iaşi (Romania)

UAIC is the oldest higher education institution in Romania, being ranked in top 3 in National rankings of universities. With over 752 teachers, 23.000 students (among them 850 PhD students), 319 researchers (part-time and full-time researchers including postdoctoral researchers), the university enjoys high prestige at national and international level. UAIC is a member of some of the most important university networks and associations: the Coimbra Group, EUA – European University Association, Utrecht Network, International Association of Universities, University Agency of Francophony and the Balkan University Network. UAIC also has two Interdisciplinary Research Departments: one in the field of science and in social science and humanities. During the summer term 2021, we were happy to welcome two guest researchers from UAIC that took part in our Research Visit programme: Iulia Dumitrache and Sergio Sava.

b. Centre for Liberal Arts and Social Sciences (Singapore)

The CLASS is a major research centre of the College of Humanities, Arts and Social Sciences at the Nanyang Technological University (Singapore). Established in 2006, CLASS facilitates, coordinates, and encourages interdisciplinary research at Nanyang Technological University, and acts as a platform for interaction among local and international scholars from various disciplines. Some of the activities organized at the Centre include presentations for working papers, seminars, CLASS Distinguished Lectures, multi-disciplinary workshops and conferences.

c. Collegium Helveticum (Switzerland)

The Collegium Helveticum is the joint Institute for Advanced Studies (IAS) of the ETH Zurich, the University of Zurich, and the Zurich University of the Arts. It aims to provide a meeting place and forum for dialogue between the humanities, social sciences, physical sciences, engineering, medical science and the arts. The main focus of the Collegium Helveticum is to promote intellectual independence and interdisciplinary exchange, both between their academic and artistic fellows and with the international scholarly community. The Zukunftskolleg and the Collegium organise research workshops together (e.g. "World Government or Else?" in 2018) and have published a prize question ("Disrupted Order?") for their fellows in 2019. The collaborative events seek to promote interdisciplinary thinking and exchange across nation borders.

d. Darwin College Cambridge (United Kingdom)

Darwin College is a constituent college of the University of Cambridge (UK) and has been founded in

1964. It is a supportive, interdisciplinary community in which graduate students, researchers and fellows meet together, so as to enrich and enlarge their scholarship and personal experiences. The colleges are one of Cambridge's strengths, academic communities that cross the disciplines. Darwin College has 65 fellows who hold faculty or research positions in the university and associated institutes, and about 650 students who come from the UK and some 70 other countries. Darwin College fosters an informal and egalitarian atmosphere for this multi-disciplinary, international community. Students and fellows meet and talk at academic get-togethers and seminars, over meals and at social and sporting events and in running the annual Darwin College lecture series (a major public event with luminary speakers every week of the Lent Term). Unlike most other colleagues our students and fellows are not segregated and students are members of many of the college's governing committees.

e. Israel Institute for Advanced Study (Israel)

Israel Institute for Advanced Studies (IIAS) of Jerusalem is a national institution devoted to academic research. Located at The Hebrew University of Jerusalem, the IIAS is a self-governing body, both in its administrative function as well as its academic pursuit. The primary function of the Institute is to encourage and support collaborative research. Along with collaborative research groups, the institute annually hosts six advanced schools as well as many conferences. The Institute is similar in concept to several existing Institutes for Advanced Study, yet also unique in its sponsoring unrestricted academic research and hosting collaborative teams throughout the more than forty years since its establishment.

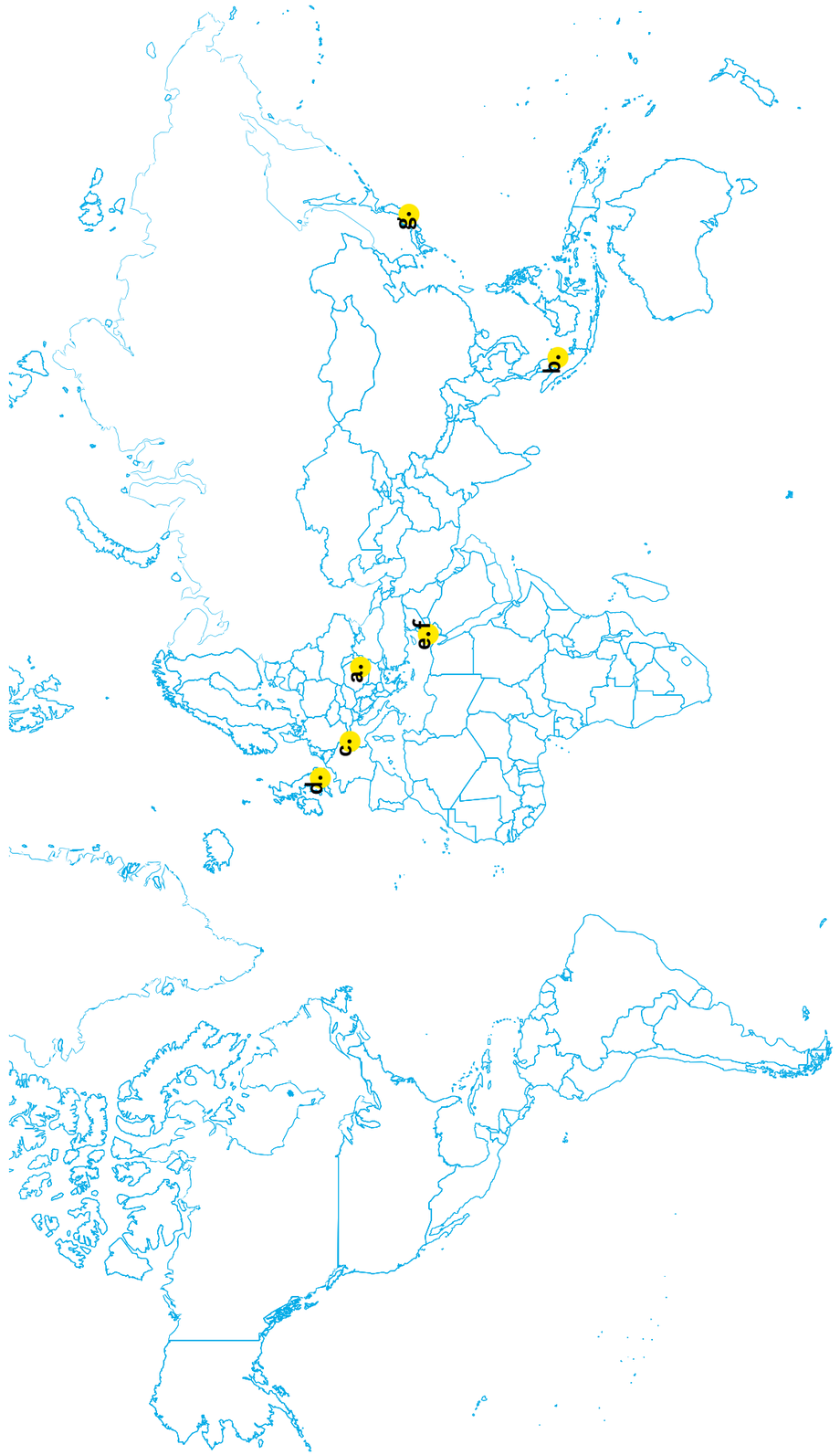
f. Martin Buber Society of Fellows in the Humanities (Israel)

The Martin Buber Society of Fellows in the Humanities and Social Sciences at the Hebrew University of Jerusalem (Israel) aims to offer young and outstanding scientists of Humanities and Social Science a creative and vivid research landscape. Its fellowship programme fosters the German-Israeli dialogue within the Society and beyond, and with the vital academic and intellectual connections that the fellows have created in the encounters the programme facilitates. Just like the Zukunftskolleg the Martin Buber Society is interdisciplinary oriented and supports excellent research. Therefore, collaboration and exchange between the two institutions bears high potential and proved to be fruitful. A "Memorandum of Understanding – To Establish a Programm of Scholary Exchange and Cooperation" has been signed in 2011 and renewed in 2015 and 2021. Moreover, workshops for larger groups are being held in Jerusalem and Konstanz. In 2018, a joint symposium entitled 'Un/certainty' has taken its first round in Konstanz in June 2018, its second part in November 2018 in Jerusalem. The contributions and resultant discussions of this symposium became part of a common Blog on Un/certainty. The covid pandemic led to the postponement of the next biennial symposium, which will now take place in 2022.

g. Waseda Institute for Advanced Study (Japan)

The Waseda Institute for Advanced Study (WIAS) in Tokyo (Japan) was established in 2006 as a research institute to provide young researchers with opportunities to dedicate themselves to their research. WIAS offers an independent research environment for young researchers and fosters them to be next-generation researchers. Currently, about 40 researchers are working in the fields of natural sciences, humanities, social sciences and interdisciplinary areas at WIAS.

They are engaged in leading research activities that fully demonstrate their flexible thinking and abilities. WIAS also accepts overseas distinguished researchers who stay at Waseda for a short-term to engage in cooperative research with Waseda faculty members or WIAS researchers. In January 2020, WIAS and Zukunftskolleg signed a Letter of Commitment to encourage and ease reciprocal short research stays for our fellows.



The Zukunftskolleg is an Institute for Advanced Study at the University of Konstanz, responsible for promoting early independence for early career researchers. With its 2-year and 5-year Fellowships as well as an extensive support network, scholars in the humanities, social and natural sciences come to Konstanz from across the world to perform first-class research.

The Zukunftskolleg is one of three lighthouse projects within the university's Excellence Strategy – together with the e-science strategy and the Forum Konstanz.

The University of Konstanz has received funding for its Zukunftskonzept (institutional strategy to promote top-level research in the framework of the German Excellence Initiative) since 2007. The new concept *creative.together* builds on the previous university strategy and further develops its *culture of creativity* in a systematic way.