

# Next generation Max Planck Center opened

Researchers from Germany and Sweden are studying the impact of human-generated environmental changes on insects



Co-directors (cd) and group leaders (gl) of the Max Planck Center “next Generation Insect Chemical Ecology” (from left to right): Silke Sachse (gl, MPI-CE, Jena), Martin Andersson (gl, Lund University), Christer Löfstedt (cd, Lund University), Rickard Ignell (cd, SLU Alnarp), Mats Sandgren (gl, SLU Uppsala), Peter Anderson (gl, SLU Alnarp), Bill Hansson (cd, MPI-CE Jena), Markus Knaden (gl, MPI-CE Jena), Sharon Hill (gl, SLU Alnarp), Susanne Erland (nGICE coordinator).

Anthropogenic changes in the environment also affect insects. The Max Planck Society, the University of Lund and the Swedish University of Agricultural Sciences now work together to study interactions between insects, the climate and humans at the new Max Planck Center “next Generation Insect Chemical Ecology”. Together, they hope to find out how climate change, greenhouse gases and air pollution influence the chemical communication between insects. The collaborative center was officially launched in January.

Over the past 100 years, the influence of humans on ecosystems and the climate as a result of industrialization has become increasingly obvious. The climate is heating up, and sea levels are rising. Mass occurrences of pest insects such as the bark beetle are more frequent, and pests are spreading to ever wider areas. At the same time, there has been a drastic decline in total insect biomass everywhere in Europe. While pollinating insect species, which play an important role in our ecosystem, are

threatened with extinction, diseases transmitted by insects are on the rise due to climate warming.

“As a result of climate change, entirely new challenges emerge with regard to pest and vector insects. Our new research cooperation aims to find out what impact these global changes have on insects, and why,” says Bill S. Hansson, Director at the Max Planck Institute for Chemical Ecology. “Our collaboration at the Max Planck Center opens up new opportunities to systematically study the effects of environmental changes caused by humans,” adds Christer Löfstedt, Professor of Biology at the University of Lund.

The scientists in the research center mainly want to examine how higher temperatures, greenhouse gases and air pollution impact the olfactory system of insects, and how insects adapt to these changes in their environment. This research could make a significant contribution towards solving global problems in the context of the climate crisis, global nutrition and combating diseases.

“Europe has been spared diseases transmitted by insects for a long time. However, in recent years, diseases such as West Nile fever and Chikungunya have spread further north. The spread of malaria and dengue fever is also facilitated by global warming. We hope that through the new cooperation at the Max Planck Center, we can develop better methods to combat these diseases,” explains Rickard Ignell, Professor of Plant Protection Biology and an expert in the ecology of vector insects at the Swedish University of Agricultural Sciences.

Three research groups are involved in the Max Planck Center: the Max Planck Institute for Chemical Ecology in Jena, with its Evolutionary Neuroethology Department, the pheromone research group at the Department of Biology at the University of Lund, and the chemical ecology research group in the Department of Plant Protection Biology at the Swedish University of Agricultural Sciences.

The three organizations also benefit from each other in terms of methodology. While at Max Planck, researchers in Bill Hansson’s lab are studying odor-guided behavior in insects and the underlying neurobiological substrates of odor perception, the research group at the University of Lund is well known for its research into the role of chemical signals for the communication between insects. In turn, the scientists at the Swedish University of Agricultural Sciences have excellent knowledge in the field of vector biology and are focusing particularly on the question of how the behavior of disease-spreading insects is mediated by external chemosensory cues and internal physiological processes.

All three research organizations contribute 500,000 euros each to the Center every year. Doctoral researchers and postdocs will mainly conduct research at one of the three institutions, while at the same time having access to the infrastructure and expertise of the other groups.

# Commitment to greater climate protection

Max Planck Society to focus on work-related air travel

Global warming concerns us all – the federal government’s Climate Action Program 2030 states: “Climate protection is a task for society as a whole.” German research organizations are also currently investigating how they can reduce their CO<sub>2</sub> footprint. The area under scrutiny is work-related air travel.

According to a study by ETH Zurich, 55 percent of the higher education institution’s carbon dioxide emissions are generated by flights taken by its staff. In order to make work-related travel throughout the Max Planck Society more climate-friendly, the Max Planck Sustainability Network is asking staff to sign a voluntary commitment to dispense with air travel. So far, 380 staff have agreed not to use air transport for distances of less than 1,000 kilometers, provided the rail journey can be completed in less than twelve hours.

“We are delighted that so many colleagues are already involved even though we have not really publicized the campaign as yet. We hope that even more colleagues will take part and we can top one thousand signatures,” says Julian David Rolfes, doctoral researcher at the MPI for Coal Research in Muelheim an der Ruhr. In mid-October, more than 1,800 employees at the higher education institutions in Berlin responded to a similar call by the Scientists for Future movement.

However, not every symposium can be reached by rail, and not every trip can be replaced by a video conference. For this reason, the Sustainability Network has issued a position paper on compensating for carbon dioxide emissions. In it, the authors describe the advantages and disadvantages of

various ways of counteracting the harmful effects of the carbon dioxide emitted during work-related trips.

The most widely used carbon dioxide compensation concept currently involves the payment of credits to non-governmental organizations, which then use the money to pay for measures to offset the emissions. These organizations carry out evaluations of the climate protection projects they fund and are themselves certified by independent national and international institutions. Alternatively, the funds can be used to sponsor internal measures for reducing carbon dioxide.

According to the position paper, the concept most suitable for the Max Planck Society should be investigated carefully. Until then, the authors recommend cooperating with the non-governmental organizations and imposing a levy on work-related trips depending on the means of transport used. The position paper is supported by the Chairman of the Scientific Council, Tobias Bonhoeffer of the MPI of Neurobiology in Martinsried: “It would show the Max Planck Society in a positive light if we were to take on a pioneering role when it comes to sustainability. This topic will therefore be on the agenda for the Scientific Council’s next meeting in February 2020.”

However, most research organizations are currently unable to compensate for the CO<sub>2</sub> emitted during work-related trips; as yet, there are no regulations that apply to all employees in the Civil Service. In its strategy paper on climate protection, the Max Planck Society therefore says that it is in favor of asking the Joint Science Conference (GWK) for legal clarity. This initiative is expressly supported by Max Planck Secretary General Rüdiger Willems: “The key strategies for work-related travel should be avoidance, reduction – and if these are not possible, compensation. For this, we urgently need legal certainty.”

Call for personal commitment to climate-friendly work-related travel at <https://t1p.de/mpg-selbstverpflichtung> (in German)

Email address for signatures  
[kurzflugverzicht@lists.mpg.de](mailto:kurzflugverzicht@lists.mpg.de)

Trains instead of planes: the Max Planck Sustainability Network is calling for climate-friendly business trips.



# New PhDnet steering group ready to start

The doctoral researchers used the three-day conference to engage in exhaustive discussions of what happened in 2019 and what 2020 has in store



Looking forward to new challenges: the freshly elected members of the PhDnet steering group.

“I’m looking forward to another year with the steering group during which we will intensify our dialog with Administrative Headquarters and enhance the experiences of junior scientists within the Max Planck Society,” emphasized the newly elected spokesperson for 2020, Lindsey Bultema of the MPI for the Structure and Dynamics of Matter (photo above: 3rd from right). In 2020, special attention

will once again be paid to equal opportunity, communication and open science. There is still a lot to do in all of these areas. “One of the things I appreciate about the General Meeting and our work for PhDnet is that we are constantly called upon to deal with new and previously unfamiliar topics, for example with regard to the problems experienced by international doctoral researchers,” added Nikki van Teijlingen Bakker of the MPI of Immunobiology and Epigenetics (3rd from left), who is the BM section’s new representative for 2020.

The other members of the new steering group are Simon Hofmann (HSS, MPI for Human Cognitive and Brain Sciences, left), Sarah Young (CPT, MPI of Colloids and Interfaces, 2nd from left), Cornelia van Scherpenberg (Deputy Spokesperson, MPI for Human Cognitive and Brain Sciences, 2nd from right) and Julia van Beesel (General Secretary, MPI for Evolutionary Anthropology, left). In January 2020, they will take over from their predecessors chaired by spokesperson Alexander Filippi of the MPI for Chemistry.

The Annual General Meeting of PhDnet took place from November 4–6 on the Max Planck Society’s Fassberg campus in Goettingen. Representatives of all the Max Planck Institutes took advantage of the three-day conference to engage in intensive dialog, discuss the work carried out in 2019, set goals for 2020 and form new working groups.

## Welcome to the Planck Academy

As of February 2020, the Max Planck Society offers all employees Max Planck-wide, target-group-specific opportunities for further training and personal career development. Whether special welcome and support offers for managers, coaching for Directors or postdocs, professional and personal career development for early career researchers or advanced training opportunities for science managers, the Planck Academy bundles all these offers under one roof. Its portfolio will be gradually expanded over the coming months.

Access is easy and user-friendly. Various learning, development and network formats are used, as are presence and online formats, coaching, mentoring and self-reflection tools. In the Planck Academy, presence formats are linked with virtual offerings, for example with e-learning modules, how-to videos or webinars. The basis for this is the Learning Management System (LMS).

