



Leopoldina  
Nationale Akademie  
der Wissenschaften

# Leopoldina news

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S7 academies present four  
statements for the G7 summit

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The Leopoldina on Social Media



# Editorial

Dear Members and Friends of the Leopoldina,

Russia's war in Ukraine is at the forefront of discussion – also in the world of science. In view of this belligerent attack in violation of international law, the Leopoldina stands in solidarity with Ukraine, with the Ukrainian people and the scientists located there. The academy underlined this in a joint statement issued by the Alliance of Science Organisations on 25 February, and of the science academies of the G7 states (S7) on 2 March (page 6). This war of aggression must not be relativised or justified.

In this situation, the Leopoldina will assist as far as it is able to, for example by supporting the programme of the Polish Academy of Sciences (PAN) to accommodate refugee Ukrainian scientists at PAN institutes. The Leopoldina has been developing additional measures in close consultation with the PAN and the National Academy of Sciences of Ukraine.

The Leopoldina has also commented on the question of sanctions: In an ad hoc statement on 8 March, the Leopoldina outlines potential ways of replacing Russian natural gas in Germany and in the rest of the European Union (EU) in the short term with other – in particular renewable – energy sources (page 7).

At last week's Science7 Dialogue Forum in Berlin/Germany (page 4), the representatives of the S7 academies exchanged ideas with the President of the National Academy of Sciences of Ukraine, Anatoly Zagorodny. The physicist extended his thanks for the support provided to the Ukrainian Academy and the scientists in his country. The Leopoldina will continue to provide this support.

Yours,



*Prof. (ETHZ) Dr. Gerald Haug, President of the Leopoldina*

*Image: David Ausserhofer | Leopoldina*

## INTERNATIONAL QUOTES

**Marcia McNutt,**  
President of the  
U. S. National Academy of Sciences/  
USA:



Image: Chris Michel

“Scientists, a group not prone to exaggeration, are becoming increasingly fearful of the dire consequences for our children and grandchildren if we do not urgently address climate change. It is not the few-degree rise in global average temperature that is the only problem, but more so the magnified consequences of that temperature increase on our life-sustaining ecosystems, agricultural output, and political stability that will threaten civilization as we know it. We need to bring the same urgency to mitigating climate change that we invested in developing vaccines for COVID-19. Fortunately, there are solutions, if we can only muster the will to deploy them.”

**Peter Piot ML, EU Chief Scientific Advisor Epidemics and Handa Professor of Global Health, London School of Hygiene & Tropical Medicine/UK:**



Image: Heidi Larson

“I have spent the last years giving speeches titled: ‘Are we ready for the next pandemic?’ The answer then – and still now – is no. We are not really prepared. It’s like we are establishing a fire brigade when the house is on fire. No, we need one all the time. To be sure, preparedness is difficult. Countries have to allocate money to something that might never happen – and when it does, its course is hard to predict. Some items, such as personal protective equipment can be stockpiled. But the most important qualities are having good leadership, institutions that detect viruses early, and health care infrastructure to grapple with outbreaks.”

# Science7 Dialogue Forum in

Research-based ideas for preventive health measures and greater climate



Head of the German Federal Chancellery Wolfgang Schmidt (above) speaking at the Science7 Dialogue Forum at the Museum of Communication in Berlin. G7 expert group members Marylyn Addo and Susanne Herold in conversation with Leopoldina President Gerald Haug (right., l.t.r.).

Images: David Ausserhofer (2) | Leopoldina; Graphic: Sisters of Design | Leopoldina

**On May 31, the science academies of the G7 states presented four statements to the German federal government in Berlin. The joint recommendations had been drafted by the academies in the Science7 (S7) format under the Leopoldina’s leadership as part of Germany’s G7 Presidency this year.**

The G7 Summit at Schloss Elmau must give a strong impetus to global climate protection, the energy transition and improving global pandemic preparedness. Our recommendations on climate and health address the key topics of the summit that desperately need to be addressed,” said Gerald Haug ML, President of the Leopoldina, at the Science7 Dialogue Forum in Berlin.

In addition to handing over the statements to Wolfgang Schmidt, the Head

of the German Federal Chancellery, the conference focused on a scientific debate about the topics addressed in the statements, as well as the recommendations.

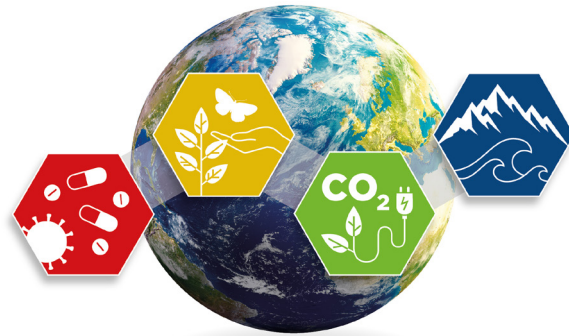
In his introductory speech, climate researcher Thomas Stocker ML elucidated how dramatic the impacts of climate change on the polar regions and the ocean already are today.

Glaciologist Ricarda Winkelmann and climate economist Ottmar Edenhofer ML presented the academies’ recommendations for the protection of the cryosphere and the ocean and the recommendations for the objective of comprehensive decarbonisation.

The lessons to be learned from the COVID-19 pandemic and how the world can better prepare for future pandemics were covered by Peter Piot ML, microbiologist and Special Advisor on the COVID-19 pandemic to the European Commission.

# Berlin: Academies present four statements

protection / Science-based recommendations on key topics of the G7 summit



**The key topics of the Science7 statements for the G7 summit 2022 in Germany are the effects of climate change on the polar regions and the ocean, international action for decarbonisation, the development of antivirals for the purpose of pandemic preparedness and the need for a One Health approach to combat zoonoses and antimicrobial resistance.**

Wide availability of antiviral drugs to be used in addition to prophylactic vaccines in the event of a pandemic is a key aspect of effective pandemic preparedness. The experience of the COVID-19 pandemic has shown that the world is insufficiently prepared for pandemics and urgent action is needed to develop new antiviral drugs. The science academies of the G7 states call for greater promotion of the development of specific and broad-spectrum antiviral drugs through the establishment of long-term funding mechanisms and improved coordination of international activities in the field of pandemic preparedness.

The continuing destruction of ecosystems around the world favours the emergence of pathogens of animal origin in humans and vice versa. At the same time, antibiotics and other antimicrobial agents are becoming less effective due to increased resistance. The science academies of the G7 states recommend specific actions to implement the One Health approach globally. The One Health approach is holistic and interdisciplinary and is based on the premise that the health of humans, animals, plants and the wider environment are inextricably linked. ■ KK, CHW

The recommendations of the academies for antivirals and the One Health approach were presented by virologist Sandra Ciesek and Thomas Mettenleiter ML, virologist and President of the Friedrich-Loeffler-Institut.

The leadership of the deliberations of the academies of the G7 changes each year. The President of the Science Council of Japan and Nobel Laureate Takaaki Kajita gave a preliminary outline of the S7 process under the Japanese G7 Presidency in 2023. Satryo Soemantri Brodjonegoro, President of the Indonesian Academy of Sciences, which is in charge this year, reported on this year's S20 process.

The President of the Ukrainian National Academy of Sciences, Anatoly Zagorodny, also took part in the discussion. The physicist expressed his gratitude for the great support granted to the Ukrainian Academy and to his country's scientists. ■ KK, CHW

Ocean and cryosphere are the most efficient early warning systems for climate change. Ice loss has accelerated sharply in both Antarctica and Greenland. The rate of sea level rise has more than doubled in the past two decades. Faced with these dramatic developments, the G7 science academies are calling for a substantive reduction in greenhouse gas emissions, global protection of marine ecosystems and the development of a digital earth observation and forecasting system.

Decarbonisation is a central element in achieving the goals of the Paris Climate Agreement. To accelerate the transition to a world with net-zero greenhouse gas emissions, the academies of the G7 are calling for a carbon-neutral and resilient energy system, reinforced international cooperation to achieve a just global energy transition based on the introduction of a trading system for renewable energy and the introduction of global carbon pricing.

► [Science7 Statements](#)

# Support for Ukraine, sanctions against Russia

Reorientation of science diplomacy in the wake of the Russian invasion of Ukraine



Sign of solidarity: the Ukrainian flag in front of the main building of the Leopoldina at Jägerberg in Halle (Saale)/Germany.

Image: Markus Scholz | Leopoldina

**On 24 February, the Russian Federation launched a war of aggression against sovereign Ukraine. The war has claimed numerous human victims and caused widespread destruction – including to educational and science infrastructure.**

Strict sanctions against Russia have been imposed in the wake of Russian aggression against Ukraine. They are also affecting the science sector. On 25 February, the Alliance of Science Organisations in Germany ceased all relations with Russia and expressed its solidarity with Ukraine. This type of measure is unprecedented in the history of German education and science.

At the same time, this decision is an expression of solidarity with our partners in Eastern Europe who are fearful

of more hostile acts on the part of Russia. Russia's actions have also been condemned at an international level. In its function as the current Chair, the Leopoldina initiated a joint statement by the academies of the G7, which was published on 2 March. It strongly condemns the Russian attack on Ukraine and pledges full solidarity to the National Academy of Sciences of Ukraine (NAN UKR).

## A call for solidarity

The Leopoldina has ceased all collaboration projects with Russian partners, in particular with the Russian Academy of Sciences (RAN). This also includes the indefinite suspension of all activities that are part of the German-Russian road map.

The preparations to establish a German-Russian Council of Young Scientists and Innovators as part of the part-

nership between the Leopoldina and RAN, which had been underway since 2021, have been halted, and the German-Russian Science Day has been cancelled. Since the beginning of the war, there has been massive destruction of Ukraine's education and research infrastructure. The number of civilian casualties among students and researchers cannot be fully determined. Thousands and thousands have left the country or are internally displaced.

Even under these extreme conditions, every effort is being made to maintain research and teaching operations by virtual means. NAN UKR calls on the international scientific community to stand in solidarity with Ukraine and to boycott all cooperation with Russia. It asks for support with post-war reconstruction and points to the looming problem of brain drain.

Many Western countries as well as Ukraine's friendly Eastern European neighbours already support Ukrainian science. Sanctioned Russian science is now extremely isolated. While over 8,000 Russian scientists and intellectuals have published an open letter of protest against the war, the Russian regime is responding with increasing repression.

It is difficult to assess how widespread the protest attitude is within Russian academia and how many dissidents have already left Russia. Nevertheless, Russian universities in particular publicly support the war. In a statement, the RAN Presidium supported the official reading of the war but also made a cautious differentiation.

Flight from the war zone is taking Ukrainian researchers and students out of the country to e.g. Germany. The academic community in Germany has responded with numerous offers of assistance, including short-term and initially temporary integration into ongoing research projects and study programmes at German universities.

The National Academic Contact Point Ukraine was established on behalf of the Standing Conference of the Ministers of Education and Cultural Affairs and the Alliance of Science Organisations in Germany. The website is administered by the German Academic Exchange Service as a central information platform and offers services for Ukrainian researchers and students in Germany as well as advice on legal and administrative aspects.

The Leopoldina provides financial and organisational support for the programme of the Polish Academy of Sciences (PAN) for the temporary accommodation of refugee researchers from Ukraine at PAN institutes in Poland. This is to be the start of a trilateral co-

operation between the Leopoldina, the Polish and the Ukrainian National Academies in the reconstruction of Ukrainian sciences after the war.

This war represents a turning point with unforeseeable consequences. With its invasion of Ukraine, Russia has excluded itself from the international community of states. Cooperation with Russia and the image of Russia are also being reconsidered in Germany in order to be better able to deal with the "aftermath."

### Trilateral partnership

The Leopoldina relies on science diplomacy and draws on many years of experience with Western Balkan cooperation as part of the Berlin Process, where it acts as a mediator in building a European future for a region which suffered several wars between 1991 and 1999. The approaches which follow are based on clear principles and are always being subject to the evolving situation.

The primary focus is on Ukraine. In a trilateral cooperation with the academies of Poland and Ukraine, the Leopoldina will identify needs for the reconstruction of Ukrainian science and – within the scope of possibilities – develop targeted measures.

In addition, the Leopoldina will continue its close coordination with the G7 science academies. The break caused by the war in Ukraine is leading to a reorientation in German science diplomacy. As one of the leading players in this field, the Leopoldina will help shape the new era.

■ LB, SWE

## Ad hoc statement on energy security

Contribution to the discussion on stopping gas supplies from Russia

The war against Ukraine has sparked a heated debate on the economic sanctions to be imposed on Russia by the European Union (EU). Among other things, discussion has focused on putting a stop to further deliveries of Russian natural gas. Potential ways of replacing Russian natural gas in Germany and the rest of the European Union in the short, medium and long term – especially with renewable energy – is discussed in the Leopoldina's ad hoc statement on "Energy alternatives to Russian natural gas in Germany and the rest of Europe" published on 8 March.

In it, the authors advocate the procurement of liquefied gas, the creation of a robust reserve of energy carriers and the expansion of the hydrogen infrastructure. The statement concludes that the German economy could manage a situation with zero Russian gas imports – even at short notice. The immediate implementation of a package of measures could help avoid energy shortages and cushion their economic and social impacts.

To prepare for a potential stop of Russian natural gas imports to the EU, a phased plan of action is needed, consisting of immediate steps, medium-term diversification of energy supply and efforts to incorporate these steps into a transformation roadmap guiding us to a sustainable energy supply.

The current situation is calling for a more proactive approach to restructuring the energy system than ever before. This can be achieved by following two tracks simultaneously – the diversified internationalisation of supply and the gradual replacement of energy sources. ■ RED

*"The turning point caused by the war in Ukraine is leading to the reorientation in German science diplomacy."*

#### Joint statements

▶ Alliance of Science

▶ Organisations in Germany

▶ Science7

#### Ad hoc statement

▶ "Energy alternatives to Russian natural gas in Germany and the rest of Europe"

# “The credibility of researchers depends on the separation of fact from opinion”

Series of articles on “Policy advice in the field of tension between science, politics and the media”

Particularly in science-based policy deliberations, it is important to be attentive and transparent in dealing with value judgements. Recommendations and statements of “ought” are not a scientific description of the world and its causal relationships. Rather, they are statements which explicitly or implicitly compare alternative situations in an evaluative way. As a rule, the evaluation criteria on which they are based are not rooted in science themselves.

BY REGINA T. RIPHAHN ML\*

Everyone may (and must) make value judgements. It goes without saying that this also applies to scientists. However, it is important to be transparent about the fact that value judgements are not made according to scientific criteria.

For science to be accepted as an advisory instance it must be independent. Furthermore, it is important to note the difference between value judgement-free statements of being (descriptions) and value judgement-laden statements of “ought” (norms).

## Separation of fact and opinion

Whether a three percent decline of economic output is an “acceptable price” for a measure to achieve foreign policy goals is not a scientific question, nor is the question whether it is “appropriate” to close schools to prevent 500,000 infections with a certain percentage of expected deaths. Everyone is entitled to their opinion on such questions. In this context, the opinion of scientists is a priori no more valid than that of other people.

The separation of fact and opinion counts for the credibility and persuasiveness of researchers’ advisory statements. This is indicated by the survey



*“It is important to be transparent about the fact that value judgements are not made according to scientific criteria”.*

Regina T. Riphahn  
Vice President of the Leopoldina

Image: Markus Scholz | Leopoldina

of members of the German Bundestag commissioned by the Leopoldina’s “Initiative for Evidence-Based Policy Making” in spring 2021. The evaluation of the results included the feedback of the parliamentarians: “Recommendations for actions derived from findings should be clearly separated from them (...)”

This idea was also reflected in paragraph 2 of the Act on the Formation of a German Council of Economic Experts (SachvRatG). The statement reads: “In its reports, the Council of Economic Experts shall present the respective overall economic situation and its foreseeable development. (...) The study should be based on different assumptions and their different effects should be presented and assessed. However, the Council of Economic Experts shall (...) not make any recommendations for specific economic and social policy measures.”

## A matter of responsibility

But what about the scientists’ responsibility? Should not the experts, who have special insight and overview, speak up in an emergency? They may and should do so, just as every citizen may. However, where scientific validity

of the statements is implied or may be understood as such, it must be worded particularly carefully. This could be done by using an if-then-argumentation and, if necessary, naming value judgements as such.

## Accurate presentation

After all, the strength of the experts lies in the accurate presentation of options for action based on objective, value-free analyses and not in their subjective opinions. The authors of the SachvRatG already saw it that way in 1963 when they passed the Act.

\* Regina T. Riphahn has been Vice President of the Leopoldina since 2017. The economist represents the Evidence Initiative, which is under the umbrella of the Leopoldina. The initiative provides a platform for dialogue and networking with and for those involved and interested in politics and science.

Topic in Focus  
“Evidenzbasierte  
Politikberatung” (German  
only)



# Leopoldina Annual Assembly on 23 and 24 September in Halle

Global Health focuses on social, economic and environmental risks to health



Graphic: Henrik Hofmeister | Leopoldina

## Global Health

### Leopoldina Jahresversammlung 2022

**The Leopoldina is dedicating its Annual Assembly 2022 to the subject of “Global Health”. On 23 and 24 September in Halle (Saale)/Germany, scientists will discuss how social, economic and environmental risks to health can be countered and how habitats can be designed to promote health.**

Health is not just a purely medical perspective; it is also determined by our physical, mental and social well-being. And health matters go beyond

national borders in our closely interconnected world. In addition to inadequate health systems or the spread of infectious diseases, human health is further threatened in many places around the world by environmental pollution, climate change, resource depletion, as well as poverty and social inequalities.

A “Health in all policies” approach is important in order to shape habitats in a way that promotes health and counters risks. It is up to scientists to research the requirements for this. The interdiscipli-

nary and international orientation of the Leopoldina predestines it to dedicate itself to the topic.

The scientific coordination of the “Global Health” Annual Assembly is in the hands of veterinarian and microbiologist Lothar H. Wieler ML, Senator of the Leopoldina’s Global Health Section founded in 2020. ■ DW

▶ Annual Assembly  
“Global Health”

## Nomination for Virchow Prize for Global Health

The newly established award recognises achievements and innovations for the improvement of global health

The call for nominations for the Virchow Prize for Global Health, which will be endowed by the Virchow Foundation for Global Health for the first time in 2022, ends on 30 June. The newly established award recognises achievements and innovations of outstanding significance for the improvement of global health.

Candidates can be individuals, organisations or institutions that have made an outstanding contribution to the fields of Global Health, United Nations 2030

Agenda for sustainable development, health promoting innovations or governance, systemic preventative action, progress of research and holistic global cooperation.

The Virchow Prize for Global Health wants to motivate the generation of great ideas and encourage comprehensive commitment for the health-related United Nations Agenda 2030 Sustainable Development Goal (SDG).

Award winners will be recognised for their many years of commitment and

their innovative contributions. The first award ceremony will take place on 15 October 2022 in Berlin, one day before the World Health Summit.

The Virchow Foundation for Global Health is an independent non-profit foundation which aims at raising awareness of global health issues, and at improving health and wellbeing. ■ RED

▶ Virchow Prize for  
Global Health

# “More respect for nature and its smallest creatures”

Leopoldina member Lars Chittka on the sensory perception and psychology of insects

The new members of Class II met in May for the Life Science Symposium at the Leopoldina in Halle (Saale). The evening lecture, which was again open to the public, was given by Lars Chittka ML. In the interview, the biologist, who specialises in the sensory perception and psychology of animals, talks about his research.

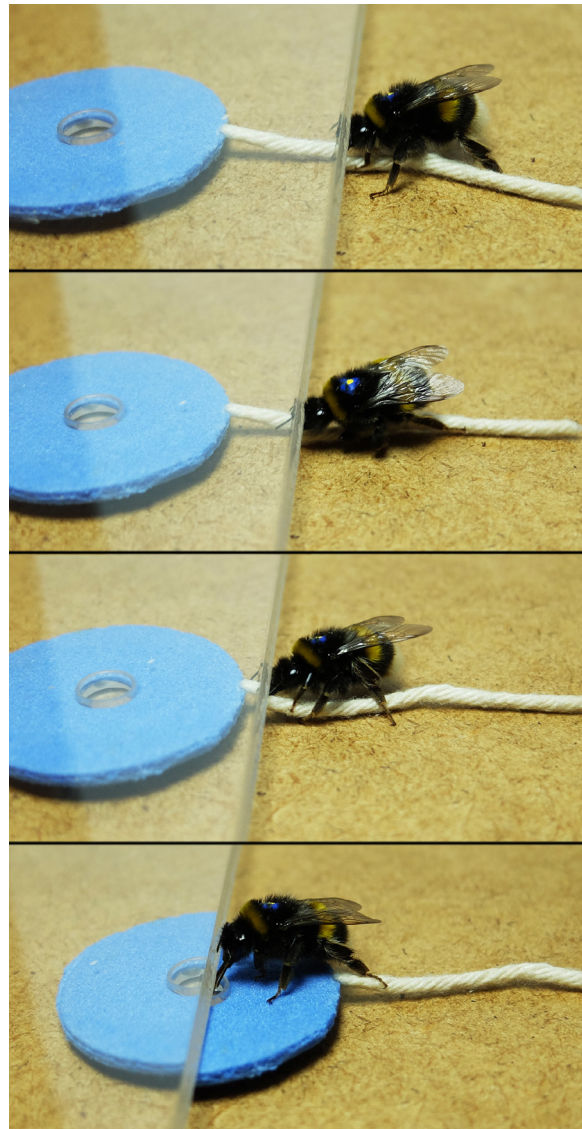
*Social insects are traditionally viewed as reflex-driven individuals that are able to build complex nests and organise efficient division of labour, but which are individually stupid. Is this view correct?*

**Lars Chittka:** Following new findings about the intelligence of insects, this historical opinion must be revised. We were able to prove, for instance, that bees can count and recognise images of human faces. Bumble-bees are even capable of using simple tools. We are researching the question of whether a form of consciousness can be found in bees – in other words whether they can think and feel.

*How would you define ‘think’?*

**Chittka:** Thinking is a kind of inner world which happens within a brain. We have seen that bees are able to flexibly access autobiographical memories and plan for the near future. They solve tasks in a way that cannot be simply explained by trial and error, but by exploring the desired outcome by thinking and understanding. These are things that ten years ago nobody would have thought possible.

*What experiments did you develop to find this out?*



Bumble-bees quickly learn how to pull a thread in order to access nectar.

Image: Sylvain Alem, Lars Chittka

**Chittka:** One of our experiments consisted of a large container with nectar being placed underneath a glass table. Bumble-bees had to pull at a thread in order to access the nectar. This is the type of intelligence test usually performed to test primates or birds. Bumble-bees learnt to do this quickly, and they were even able to imitate other bumble-bees behaving in this way.

*What does an insect feel?*

**Chittka:** We were able to show that surprising rewards trigger an “optimistic state of mind” in bumble-bees, causing them to show spontaneous curiosity in the face of new stimuli. Attacks by predators can induce a negative state of mind. There are spiders that sit on flowers in order to catch pollinating insects. We imitated this in the laboratory and designed a plastic model of a spider with a mechanism that briefly held onto a bumble-bee before releasing it. The bumble-bee’s behaviour changed fundamentally: The bumble-bee seemed more nervous and more ready to take flight from an existent threat, even from a flower that did not contain a spider. It looked like post-traumatic stress disorder.

*How sure can you be that this kind of assumption is accurate?*

**Chittka:** It is always difficult because there is no formal proof of an animal’s emotions. We have to use our common sense and base our arguments on probability to corroborate observations using physiological or neuronal studies in order to prove that this kind of adaptive behaviour also makes sense for animals. If all of that is correct, it becomes quite prob-

able that we are observing emotional states here. Nature does not indulge in equipping animal species with psychological behaviours that just seem like they are based on emotions.

*What conclusions does this bring you to with respect to the protection of insects?*

**Chittka:** We assume that bees know from experience that they suffer as a

## NEW MEMBERS CLASS II – LIFE SCIENCES



*In May, the new Class II members of 2020 and 2021 – life sciences – received their certificates. On the photo: Secretary-General Franziska Hornig (l.) and Gerald Haug ML, President of the Leopoldina (r.) and new members Melanie Blokesch, Anne Spang, Barbara Rehermann, Ruth Ley, Marja Timmermans, Martina Muckenthaler, Oliver Einsle (front row from left to right). Matthias Rillig, Nicolaus von Wirén, Helle Ulrich, Ute Krämer, Bernhard Küster, Uwe Sonnewald and Marco Prinz (middle row from left to right) and Gerhard Hummer, Jonathan Gershenson, Lars Chittka, Christian Drosten, Blanche Schwappach-Pignataro, Peter Rehling, Christian Rosenmund and Ulrich Brandt (back row from left to right).*

*Image: Markus Scholz | Leopoldina*

result of modern industrial agriculture. This gives us human beings several reasons for protecting bees: because they are important pollinators, but also for their own sake. And there is an ethical aspect: Up until now, there are no regulations on how scientists should treat insects in the laboratory. We now need certain rules – similar to the rules for experiments using rats or monkeys – that determine

the conditions under which insect experiments should be permitted

*How can your membership of the Leopoldina help you with this?*

**Chittka:** I believe that the Leopoldina plays an eminent role as a hub for first-class science, politics and the public sphere. The decline in the number of insects, such as bees, has received wide-

spread public attention for years. I would like to use the Leopoldina as a platform to disseminate the knowledge that bees are thinking and feeling living beings to a certain extent. This realisation is important for nature conservation because it instils more respect for nature and its smallest creatures.

■ THE INTERVIEW WAS CONDUCTED BY  
BENJAMIN HAERDLÉ

## PORTRAIT OF FORMER PRESIDENT JÖRG HACKER PRESENTED AT SPRING EVENT



*The portrait of Former President Jörg Hacker ML was unveiled at the joint spring event of the Leopoldina and the Friends of the Leopoldina Academy. The microbiologist was the academy's XXVth President from 2010 until 2020. In his time in office, Jörg Hacker established the Leopoldina as an advisory body on societal challenges, both nationally and internationally, and a prestigious partner in the global dialogue between academies. The portrait will complete the gallery of Presidents of the Academy in the main building in Halle (Saale), which features portraits of almost all former Presidents. The painting was created by Sebastian Herzau, an artist from Halle, who studied painting at the University of Art and Design in Burg Giebichstein. During the reception, the Schleiden Medal 2021 was presented to medical doctor and cell biologist Nicolaus Pfanner ML for his scientific work on the structure and function of mitochondria. The scientist from Freiburg gave a lecture about his work entitled "Mitochondria, the smallest human power plants".*

■ JK / Image: Markus Scholz | Leopoldina

▶ Jörg Hacker

# “The desire to ask ‘why’”

Photographer Herlinde Koelbl about the exhibition “Fascination of Science” at the Leopoldina

Photographer and documentary filmmaker Herlinde Koelbl is one of the most successful artists in this field. She rose to fame with coffee-table books such as “The German Living Room” (1980). From 10 June until 11 September, the Leopoldina in Halle (Saale) will be hosting Herlinde Koelbl’s exhibition “Fascination of Science,” which includes the portraits of 22 academy members.

*Mrs. Koelbl, what gave you the idea to take portraits of scientists?*

**Herlinde Koelbl:** I had heard some lectures where scientists needed to keep it brief. This meant that they had to get to the essence of what they wanted to say very quickly, and listening to them was very interesting. Also, I became friends with some scientists. That is how I got the idea to take their portraits. I very quickly decided to make this an international project, that I wanted to cover

as many natural science disciplines as possible and include as many women as possible – for the world of science is still male-dominated. Right from the start, I also wanted to talk to the subjects and to take video footage

*Did these women and men of science like being photographed?*

**Koelbl:** They did not hesitate at all! It goes without saying that scientists are a completely different kind of people than politicians. Politicians need to be extroverts; they want and need to be seen by the public. The public has to know what they look like – they live a life almost like



The exhibition poster shows a portrait of Antje Boetius, a marine researcher.

Image: Herlinde Koelbl

in a shop-window. Scientists on the other hand are people who work alone in a laboratory and who mainly seek public attention by way of their publications.

*Is it possible that your idea to include the hands has made the project particularly interesting for your subjects?*

**Koelbl:** Yes, I told everyone to write their philosophy or a formula on their hand. And then I asked them to hold the hand close to their face. This brings the portrait and the message that goes with it close together. They all started playing because I didn’t give them any instructions, and I liked that: I believe I touched

upon something that is part of research: something playful and alive.

*Your own work may also be seen as a kind of research – in images and words. Did you ever consider being a scientist yourself?*

**Koelbl:** No, for me, this was a new, and exciting world, and a real challenge. I prepared for the conversations in detail by reading about the subject matter. There is something that I, as an artist, have in common with my subjects: the desire to keep discovering something new, to never stop asking ‘why’. We should preserve the curiosity we are born with. When you stop being curious, you are dead.

*The microbiologist Emmanuelle Charpentier wrote: “Always be the best of yourself” on her hand. Did you recognise such high expectations as a typical characteristic of researchers?*

**Koelbl:** I admire anyone who is passionate about what they do. It requires immense perseverance, which is essential to be able to deal with failure. In science, there is a lot of rivalry and competition, of course. But you do not earn a reputation with money, but by publishing your research results in the most reputed journal before anyone else. That is the currency of science. I want to talk about as many of these different facets as possible in just one photo. One of my objectives was to make science a more visible part of society.

■ THE INTERVIEW WAS CONDUCTED BY  
ADELHEID MÜLLER-LISSNER

# The Language of Objects

The Leopoldina's natural history collection contains this image of a fossilised scallop

**Museums and collections changed at the transition from the 18th to the 19th century: They became accessible to the wider public. This also changed the way collection objects were described and the meaning attributed to them.**

From 2018 until 2020, a joint research project of the Centre for Science Studies of the Leopoldina, the Martin Luther University Halle-Wittenberg and the University of Bonn investigated these changes by taking the example of the shells of mussels, snails and fossil molluscs.

The project examined the mollusc shell collections held by the three institutions and was able to record a total of 2,500 objects using richly illustrated catalogues dated from between 1759 and 1844 in a joint data base.

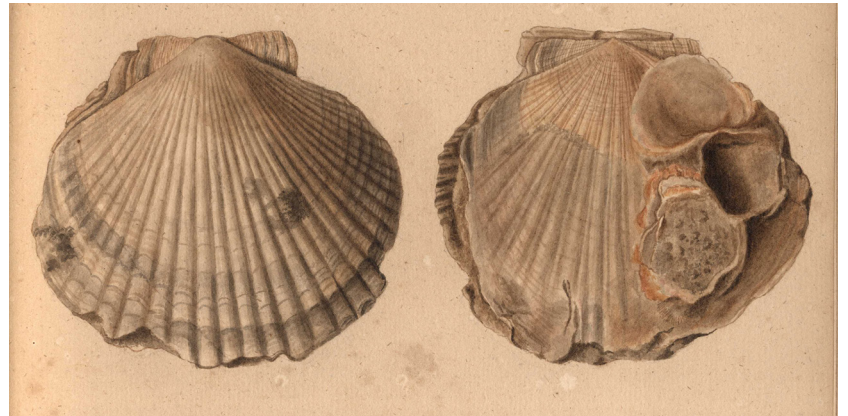
The subsequent analysis tried to answer the following guiding questions: How did the valuation of objects change? Which scientific, institutional, economic, social, aesthetic and perso-

nal conditions affected this change? The project, which received funding from the German Federal Ministry of Education and Research, came to the following result: The financial value attributed to mollusc shells was predominantly determined by their scarcity.

However, scarcity alone was never the only aspect: Private collections were focused on showing the regular

patterns and beauty of nature through these objects. In museums, however, objects were mostly considered under the aspect of their place in natural history and taxonomy. The former practice of exchanging one or several objects was not mirrored in public collections, where the main focus was the objects' usefulness for academic teaching.

■ LS, RGO



The Leopoldina's natural history collection contains this image of a fossilised scallop.

Image: Katalog Kniphof | Leopoldina

## Guidelines

### Leopoldina promotes symposia

The Leopoldina offers non-material or financial support of events to its members. Support is subject to the approval by the Presidium for the event to be supported as a Leopoldina event. There is also the option of supporting internal meetings of sections and classes.

The guidelines for Leopoldina Symposiums and internal meetings provides information about how to apply and how to prepare and organise an event. ■ RED



Guidelines  
Leopoldina Symposia

## Award for Jutta Schnitzer-Ungefug

Order of Merit for the former Secretary-General of the Leopoldina

The former Secretary-General of the Leopoldina, Jutta Schnitzer-Ungefug, has been awarded the Cross of the Federal Republic of Germany. The award was presented by Federal President Frank-Walter Steinmeier in Quedlinburg to honour her achievements for the federal state of Saxony-Anhalt, the city of Halle (Saale) and the Leopoldina. The neurobiologist was the Leopoldina's Secretary-General for 20 years.

"With the expansion of the Academy's office following her appointment in 2008, Jutta Schnitzer-Ungefug contributed to the Leopoldina's image as a modern working academy that



Jutta Schnitzer-Ungefug

Image: Markus Scholz | Leopoldina

bundles scientific understanding and conveys this knowledge to policy makers and the public," said Gerald Haug, President of the Leopoldina, in a statement. ■ RED

# People

## Awards and Honours

- **Jutta Allmendinger** ML, member of the Economics and Empirical Social Sciences Section, was awarded the Marie-Juchacz Award for Women by the federal state of Rhineland-Palatinate.
- **Ralf Bartenschlager** ML, member of the Microbiology and Immunology Section, was honoured with the Ernst Jung Prize for Medicine by the Jung Foundation for Science and Research.
- **Wolfgang Baumeister** ML, member of the Biochemistry and Biophysics Section, was recognised with the Alexander Hollaender Award in Biophysics of the U.S. National Academy of Sciences (Washington D.C./USA).
- **Carolyn Bertozzi** ML, member of the Chemistry Section, was awarded the Helen Dean King Award by the Wistar Institute (Philadelphia/USA).
- **Andrea Bréard** ML, member of the History of Science and Medicine Section, was honoured with the Alexander von Humboldt Professorship by the Alexander von Humboldt Foundation.
- **Gottfried Brem** ML, member of the Agricultural and Nutritional Sciences Section, received the Decoration of Honour for Services to the Republic of Austria.
- **Ingrid Fleming** ML, member of the Physiology and Pharmacology/Toxicology Section, was honoured with the Ernst Jung Prize for Medicine by the Jung Foundation for Science and Research.
- **Herbert Gleiter** ML, member of the Physics Section, was awarded the Stookey Lecture of Discovery Award by the American Ceramic Society.
- **Jörg Hacker** ML, member of the Microbiology and Immunology Section and Former President of the German National Academy of Sciences Leopoldina, has received the Robert Koch Gold Medal from the Robert Koch Foundation (Berlin/Germany).
- **Karl-Walter Jauch** ML, member of the Surgery, Orthopaedics, Anaesthesiology Section received the Pro Meritis Scientiae et Litterarum Award by the Bavarian State Ministry of Science and the Arts.
- **Thomas Krieg** ML, member of the Internal Medicine and Dermatology Section, was awarded the Albrecht von Haller Medal of Merit by the University Medical Center Göttingen.
- **Maria Leptin** ML, member of the Biochemistry and Biophysics Section, was elected a member of the Royal Society.
- **Sigrid D. Peyerimhoff** ML, member of the Chemistry Section, received the Erick Hüchel Prize from the German Chemical Society (GDCh).
- **Uğur Şahin** ML, member of the Human Genetics and Molecular Medicine Section, was honoured as University Lecturer of the Year by the German Association of University Professors and Lecturers (DHV).
- **Julian Schroeder** ML, member of the Genetics/Molecular Biology and Cell Biology Section, received the Carl Friedrich von Siemens Research Award from the Alexander von Humboldt Foundation.
- **Markus Schwaiger** ML, member of the Radiology Section received the Pro Meritis Scientiae et Litterarum Award by the Bavarian State Ministry of Science and the Arts.
- **Özlem Türeci** ML, member of the Human Genetics and Molecular Medicine Section, was honoured as University Lecturer of the Year by the German Association of University Professors and Lecturers (DHV).
- **Lothar H. Wieler** ML, member of the Global Health Section, was awarded the golden badge of honour by Freie Universität Berlin.
- **Moussa B.H. Youdim** ML, member of the Neurosciences Section, received the Israeli Award with the highest value, The Israel Prize for Lifetime Achievement in Science.

## New members of Class I

- **Peter Bühlmann** ML, Zurich/Switzerland, ETH Zurich, Mathematics Section
- **Erick M. Carreira** ML, Zurich/Switzerland, ETH Zu-

rich, Chemistry Section

■ **Adrian Constantin** ML, Vienna/Austria, University of Vienna, Mathematics Section

■ **Laura Gagliardi** ML, Chicago/USA, University of Chicago, Chemistry Section

■ **Martin Grosjean** ML, Bern/Switzerland, University of Bern, Earth Sciences Section

■ **Jürgen Janek** ML, Giessen/Germany, Justus Liebig University Giessen, Chemistry Section

■ **Frank Jülicher** ML, Dresden/Germany, Max Planck Institute for the Physics of Complex Systems, Physics Section

■ **Gisela Lanza** ML, Karlsruhe/Germany, Karlsruhe Institute of Technology, Engineering Sciences Section

■ **Muriel Médard** ML, Cambridge/USA, Massachusetts Institute of Technology, Informatics Section

■ **Nicola A. Spaldin** ML, Zurich/Switzerland, ETH Zurich, Chemistry Section

■ **Matthias Wessling** ML, Aachen/Germany, RWTH Aachen University, Engineering Sciences Section

■ **Barbara Wohlmuth** ML, Munich/Germany, Technical University of Munich, Mathematics Section

■ **Omar Yaghi** ML, Berkeley/USA, Chemistry Section

■ **Koichi Shimizu** ML | 12.02.1933 bis 11.12.2021 | Tokio/Japan | Ophthalmology, Oto-Rhino-Laryngology and Stomatology Section

■ **Horst Stoeckel** ML | 26 September 1930 to 24 March 2022 | Bonn/Germany | Surgery, Orthopaedics and Anaesthesiology Section

■ **James Vaupel** ML | 02 May 1945 to 27 March 2022 | Rostock/Germany | Economics and Empirical Social Sciences Section

## Deceased members

■ **Ekkehard Grundmann** ML | 28 September 1921 to 25 March 2022 | Münster/Germany | Pathology and Forensic Medicine Section

■ **Harald Reuter** ML | 25 March 1934 to 23 February 2022 | Bern/Switzerland | Physiology and Pharmacology/Toxicology Section

■ **Ernst Schmutzer** ML | 26 February 1930 to 20 February 2022 | Jena/Germany | Physics Section

■ **Günter Schultz** ML | 23 January 1936 to 14 August 2021 | Berlin/Germany | Physiology and Pharmacology/Toxicology Section

## Imprint

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### Abbreviations:

ML = Member of the Leopoldina