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Halle (Saale), 31 July 2020

Energy transition 2030 – the key to climate protection in Europe

Joint statement by
the Leopoldina, acatech and
the Union of German Academies



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SILBERSALZ Conference: The Leopoldina will play host to representatives from the worlds of science and media in October.

The Leopoldina on Social Media



Editorial

Dear Members and Friends of the Leopoldina,

Time and time again, we hear the question of whether the coronavirus pandemic has done more to help or harm efforts to combat climate change.

At first glance, the damage is clear and the benefits seem negligible. The spread of the coronavirus has eclipsed the issue of climate change in public debate. At the same time, worldwide CO₂ emissions fell by just 17 percent as economies shut down. However, if we consider the developing efforts to manage the consequences of the pandemic, opportunities emerge. The investments that will have to be made could bring us a great deal closer to achieving our climate protection goals.



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

Image: David Ausserhofer

This applies in particular to our energy supply. In 2017, around 80 percent of emissions in the European Union originated from the energy industry. The Leopoldina, acatech and the Union of German Academies addressed this issue in June in their ad-hoc-statement “Energy transition 2030” (see page 4 onwards). As Germany prepared to assume the Presidency of the Council of the European Union for the second half of 2020, they set out recommendations to help Europe become climate neutral by 2050. The time is ripe and bold decisions must be taken now, especially at the EU level.

In mid-July, the Leopoldina explored another issue related to the coronavirus pandemic – mobile tracing apps designed to help quickly identify and break chains of infection (see page 7). A panel of international experts hosted by the Leopoldina discussed the technical and ethical aspects which must be considered in developing such apps. The discussion was held online to avoid the risk of infection and enable easy access for all participants.

On that note, I hope you enjoy reading this new edition!

A handwritten signature in blue ink, which appears to read "Gerald Haug".

“Carbon pricing as a key instrument to guide the energy transition”

Robert Schlögl and Karen Pittel on the science academies' ad-hoc-statement



“No regret” measures such as a cross-sector CO₂ price and upgrades to infrastructure could pave the way for a European energy transition without an excessive social or economic strain.

Image: ©Fotoldee | ©PikePicture – stock.adobe.com

In June, the Leopoldina published the ad-hoc-statement “Energy transition 2030: Europe’s path to carbon neutrality” together with acatech – National Academy of Science and Engineering, and the Union of German Academies. The 22 authors include Karen Pittel, Director of the ifo Center for Energy, Climate, and Resources in Munich, and Robert Schlögl ML, Director of the Max Planck Institute for Chemical Energy Conversion in Mülheim an der Ruhr, who explained the recommendations in an interview.

What inspired the ad-hoc-statement?

Robert Schlögl: Germany took over the Presidency of the European Council on 1 July. There’s no sense in an energy transition without a European dimension. If we want to make progress, we need to

think in terms of Europe as a whole. This is an excellent opportunity.

What makes it so urgent now?

Schlögl: By now, everyone has understood that humankind only has a limited CO₂ budget at its disposal. The longer we carry on the way we always have, the more difficult and expensive the transition will be. In the steel, chemical and cement industries, for example, the next ten years will bring a new investment cycle and many businesses have to invest in new production facilities. A smart switchover could make it easier to achieve climate objectives.

“No regret” measures are seen as a key element of the energy transition. What makes these so essential?

Schlögl: “No regret” measures are technological developments which will prove indispensable if we are to meet the EU’s 2030 greenhouse gas emission targets and net-zero greenhouse gas emissions by 2050. The technological developments include renewable energies such as photovoltaics and wind power which have already reached an advanced degree of technological maturity. Other “no regret” measures include expanding transmission and distribution grids and developing storage elements for these grids, as well as increasing promotion for electrical applications like heat pumps and e-mobility, for example.

Karen Pittel: But at the same time, we need to acknowledge the fact that Germany is not the ideal place to use wind and solar power. This means that it’s im-

portant for us to invest in energy efficiency – another “no regret” measure.

The ad-hoc-statement also cites importing energy from North Africa and the Middle East as a “no regret” measure. Won’t coordinating this involve complicated political processes?

Pittel: All forecasts indicate that we will need more energy in the long term in order to reduce our dependence on fossil fuels. This applies to the development of hydrogen as a material energy carrier for the steel industry or as a chemical raw material, for example. To make this possible in Germany, we will need to import energy from elsewhere in Europe and further afield. The international cooperation needed will not



Karen Pittel

Director of the ifo Center for Energy, Climate, and Resources at the ifo Institute – Leibniz Institute for Economic Research at the University of Munich. Image: ifo

always be easy since the markets don’t yet exist in this form. So it’s unclear, for instance, what mechanisms are needed to advance the development of hydrogen.

Schlögl: In technical terms, however, we have everything we need to build the first generation of a sustainable energy system based on hydrogen. This means that approaches based on systems analysis are just as important as ensuring that the right economic conditions are in place. We need to know how these systems interact with one another and what effects they might have. Just think of when E10 or biodiesel fuel were introduced and the negative con-

sequences that followed. We can’t let that happen again.

The science academies also recommend carbon pricing as a key climate policy instrument. Why is that?

Schlögl: The most important thing is simply to have an instrument of any kind that allows us to guide the energy transition. At the moment, the only way we’re supporting the transition is through replacement technologies, for example as a result of the German Renewable Energy Sources Act. But the situation varies significantly across different industries – the regulations for the transport sector are different from those for power or manufacturing. What’s more, each European country is taking a different approach. With such fragmented measures, the effects vary wildly from place to place. So it’s crucial for us to agree on one key instrument for all applications across the energy sector.

Emission trading is already in place at the EU level. Is this the right instrument?

Pittel: Yes, the EU Emissions Trading System is properly structured and works well. But it should be expanded to cover the heating and transport sectors, for example, and be supplemented by a minimum CO₂ price. This would allow businesses to know with certainty how low prices could fall – all the more important in light of the coronavirus crisis. They could then decide whether or not it’s worth investing in energy-efficient production facilities or renewable energy.

It seems that a lot of issues are being eclipsed by the COVID-19 pandemic. Is there a danger that the goal of EU climate neutrality by 2050 will fall by the wayside?

Pittel: It’s clear that the pandemic has reduced the financial possibilities available. But the European Commission is still consistently indicating that it plans to stand by this goal.

Schlögl: Now would be the right time to begin transforming our energy system to make it fully sustainable. Waiting any longer would only mean having to invest even more money in a pan-European energy system further down the line.

What do you hope to see from Germany’s term of Presidency of the European Council?

Pittel: It will be important to draw up concrete schedules for emissions trading to ensure that we stay on track to achieve the climate goals. Additionally, it must be made clear to the EU member states early on that they need to step up their efforts to avoid emissions in all other sectors if we are to achieve climate neutrality by 2050. And a hydrogen policy should be developed at the European level which – mirroring the one recently presented by Germany.



Robert Schlögl ML

Director of the Fritz Haber Institute of the Max Planck Society in Berlin, Director of the Max Planck Institute for Chemical Energy Conversion in Mülheim an der Ruhr, and spokesperson of the Academy’s working group “Energy Transition 2030”. Image: Markus Scholz | Leopoldina

Schlögl: The EU member states should agree on a uniform set of instruments for implementing the energy transition. They need to ensure they are all on the same wavelength on this issue. Bans and long-term subsidies are no solution.

■ THE INTERVIEW WAS CONDUCTED BY BENJAMIN HAERDLÉ

▶ Ad-hoc-statement
“Energy transition 2030:
Europe’s path to carbon
neutrality”

A significant proportion of biodiversity has already been lost forever

Leopoldina Discussion No. 24 with a ten-point plan for global biodiversity conservation

Animal and plant diversity is one of the foundations of human life. It influences and regulates fundamental earth system processes such as soil formation and the climate as well as water, gas and nutrient cycles. Beyond the diversity of all living creatures, however, biodiversity also includes the diversity of biological systems – that is, the ecosystems found in our forests, grasslands, freshwater and seas.

Evolution has always meant that some species die out while others develop. But recent decades have seen a mass extinction of animal and plant species. The primary causes for this stem from human activity. More intensive use of land worldwide and changing land use in particular have led to a huge drop

“To effectively fight the causes of the biodiversity crisis, there is a need for both far-reaching changes to current practices in intensive agricultural production and an end to the further expansion of agricultural land by clearing forests and converting savannah, grasslands and wetlands.”

Discussion No. 24
“Global Biodiversity in Crisis”, page 10

in biodiversity. Human-induced climate change is also detrimental to biodiversity, as the increased levels of carbon dioxide in the air are in turn raising the acidity of global oceans.

The result is that today, a significant proportion of biodiversity has already



Around 80 percent of global biodiversity loss is caused by changes in land use and by intensive agricultural production, such as wheat farming shown here. Image: Adobe Stock / Alfribeiro

been lost forever. It is currently hard to guess what this will mean for the long-term survival of humankind. But it's crucial to understand that the twin challenges of protecting the climate and protecting biodiversity are inherently connected, they affect all of humanity and they require a collective response.

The global community recognized the urgent need to act with the 1992 Convention on Biological Diversity. Over the last three decades, the signatories to the convention – almost every country on Earth – have committed to a range of goals intended to strengthen protection for biodiversity and curb its decline to the greatest extent possible. Some achievements have been made, but the decline in biodiversity has continued virtually unchecked.

The authors of the recent Leopoldina discussion paper “Global Biodiversity in Crisis – What can Germany and the EU do about it?”, including Detlev Drenckhahn ML, analyze the situation in detail and set out their recommendations. They include a ten-point plan for protecting biodiversity which highlights areas of national and international policy where action can and must be taken to prevent the collapse of global ecosystems. The discussion paper is supplemented by a comprehensive volume of documentation. ■ HST

Discussion No. 24 “Global Biodiversity in Crisis” (only available in German)

Can apps bring hope in the fight against COVID-19?

The Leopoldina launches a series of international discussions online



The webinar “Contact Tracing Apps” explored technical and ethical aspects of tools used for contact tracing during the coronavirus pandemic.

Foto: AdobeStock © tisamboon

To ensure that international scientific dialogue remains possible during the coronavirus pandemic, the Leopoldina and its global partners have launched a series of online discussions held in English. Under the title “Leopoldina International”, experts discuss the latest issues connected to the COVID-19 pandemic as well as other topics from the National Academy of Sciences’ work.

The first discussion in the series was the webinar “Contact Tracing Apps”, held on 15 July. It focused on digital contact tracing tools designed to help prevent and control epidemics and pandemics. In particular, it took an interdisciplinary look at different approaches to COVID-19 apps, which form part of a broader spectrum of digital tools, and different countries’ experiences with these apps to date. It became clear that few of the apps currently available are suitable for global use.

In Germany, where the official Corona-Warn-App was introduced on 16 June, lawmakers decided on an open-source model with decentralized data logging on users’ mobile devices. Other

countries are combining centralized data logging with additional tracing methods and using big data to model people’s movement habits.

The panel was hosted by Leopoldina Vice President Regina T. Riphahn ML. It brought together experts in computer science, law, ethics and health science, including Sir Jonathan Montgomery (University College London/UK), Judith Simon (German Ethics Council), Douglas Leith (Trinity College Dublin/Ireland), and Myongsei Sohn (Yonsei University Seoul/South Korea). Together with the audience, they discussed the design and effectiveness of digital contact tracing tools, the data protection issues involved, the challenges of ensuring public acceptance of such tools, and their implications for health policy.

The “Leopoldina International” series is set to continue in September. The next event will focus on mental health.

■ LB, CHW

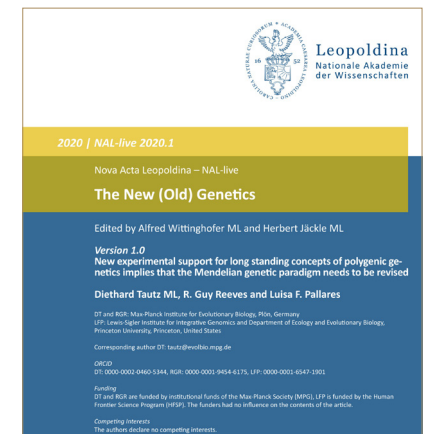
▶ Virtual panel discussion
“Contact Tracing Apps”

Launch of Leopoldina’s new journal format

NAL-live is an online-based open access format

An article about the impact of modern genome research on the paradigms of genetics is the first scientific contribution published in NAL-live, the new journal format of the Leopoldina. It is now open for discussion and researchers as well as anyone else who is interested can read the article, comment on it, add to it and update it. All contributions will be available online with open access.

English-language NAL-live articles offer an overview of individual fields of research and encourage continued scientific discussion and further development of those fields. The articles are subject to evaluation, and both comments and additions by other authors can be cited via DOIs. New versions are gradually being created so that NAL-live can track and display the development of the different areas of research.



Researchers from all disciplines are invited to publish their own contributions in NAL-live and discuss them with colleagues. NAL-live supplements the scientific journals of the Leopoldina, the Nova Acta Leopoldina (NAL) and the Acta Historica Leopoldina (AHL). ■ RG

▶ NAL-live:
Read and discuss

Providing advice at the EU level in times of crisis

6th annual meeting of the European Science Advisors Forum focuses on the issue of a green transformation

The sixth annual meeting of the European Science Advisors Forum (ESAF) was held online on 24 June. The Leopoldina has represented Germany on the Forum since 2016. It serves as an independent platform for the EU member states' scientific advisors to discuss their work providing science-based advice for policymakers and the public.

Meeting attendees discussed the COVID-19 pandemic as well as future challenges such as the “green transformation”. Peter Piot ML, special advisor to President of the European Commission Ursula von der Leyen on the COVID-19 pandemic, explained the EU’s advising structures and took stock of the current situation. He also set out the Commission’s strategy of establishing trans-European regulations for mana-

ging the new reality. The Commission’s advisory panel on COVID-19 is carrying out a detailed analysis of the lessons learned so far, he said.

He also emphasized the importance of bringing together the relevant figures involved in science-based advice across Europe, in particular for the reconstruction plan “NextGenerationEU”. Commission representatives underlined the need to improve communication of science-based advice to the EU’s citizens and to monitor and support the deep transformations the continent is facing in the wake of the COVID-19 crisis.

The national ESAF representatives then engaged in an in-depth discussion of advising in times of crisis. They explicitly mentioned the Leopoldina’s four ad-hoc-statements on the coronavirus pandemic and discussed these with Leo-

poldina’s President Gerald Haug ML. It was noted that in some EU member states, these statements have served as a model and encouraged local scientific organisations to become more heavily involved in providing advice to policymakers and the public.

The secretariat of the ESAF was managed by the Royal Netherlands Academy of Arts and Sciences and the Netherlands Scientific Council for Government Policy between 2017 and 2020. The Estonian Academy of Sciences has now taken over this role from July 2020 until June 2023.

The representatives of the United Kingdom, Switzerland and Norway as well as the seven Chief Scientific Advisors appointed in their personal capacity to serve the European Commission are associate members of the ESAF. ■ LB

Science academies standing together

Leopoldina and Royal Society intensify strategic cooperation during the COVID-19 pandemic and beyond

The executive boards of the Leopoldina and the Royal Society met with one another for the first time on 8 June. The session was moderated by their respective presidents – Gerald Haug ML of the German academy and Venki Ramakrishnan ML of the British body – and centred around three major issues. This first meeting highlights the importance of strategic cooperation between the two national academies.

The first item on the agenda was the academies’ work providing science-based advice for the government and the public in light of the COVID-19 pandemic, and the commonalities and differences between the two countries in this regard. Vice President of the Leopoldina Thomas Krieg ML introduced the German National Academy’s four ad-hoc-statements, before Gerald Haug explained how science-based policy advice

and pandemic management works in Germany. The Royal Society presented its own activities relating to COVID-19, giving the example of the initiative “Rapid Assistance in Modelling the Pandemic (RAMP)” and the multi-disciplinary research group “DELVE: Data Evaluation and Learning for Viral Epidemics”. It also described its cooperation on individual issues with the British government’s Scientific Advisory Group for Emergencies (SAGE).

The second focus of the meeting concerned scientific cooperation across Europe and the need to find a balanced approach to this cooperation – particularly in a post-Brexit context. The discussion covered multilateral ventures and cooperation between academies. The uncertainty surrounding the United Kingdom’s future participation in the research initiative “Horizon Europe” (2021

to 2027) and the exchange program “Erasmus+” was identified as a particular source of concern.

The final topic of discussion was the two academies’ participation in the 15th Conference of the Parties to the Convention on Biological Diversity (COP15), as well as the 2020 UN Climate Change Conference (COP26) – both of which have been postponed to 2021. These conferences are primarily concerned with biodiversity and climate change, respectively. Gerald Haug and Peter Bruce, Physical Secretary of the Royal Society, discussed potential joint statements and parallel events.

The executive boards of the two academies concluded by emphasizing the value gained from dialogue between trusted partners and agreed to continue this dialogue at regular intervals in the future. ■ LB

SILBERSALZ takes an unusual look at our “Homeland Earth”

Leopoldina reprises its role as partner of the Festival’s conference on 17 October

“Homeland Earth” is the theme of this year’s SILBERSALZ Science & Media Festival. In light of the coronavirus pandemic, the festival has been split into two parts. The first part was held in June, drawing visitors to an art installation in Halle’s Ulrichskirche church and concert hall. The second part of the festival is set to take place in autumn.

In addition to the art installation “Gaia” – a vast floating globe displayed inside the church – presentations and round-table discussions were held and streamed live online on 19 June as part of the lecture series “SILBERSALZ spricht ...” (“SILBERSALZ speaks ...”). Experts including four members of the Leopoldina responded to questions from the moderators and online viewers before the backdrop of the spinning globe.

Antje Boetius ML, director of the Alfred Wegener Institute in Bremerhaven/Germany, held the opening address. “There is still so much to admire, to discover and to explore,” she said, her unwavering enthusiasm for science shining through. Boetius’ message about the fate of the Earth was just as clear: “We must reach carbon neutrality within the next 30 years if we want our cherished home planet to remain as it is today.”

Gerald Haug ML, President of the Leopoldina, continued in this vein during the panel discussion “Sustainable strategies for the world of tomorrow” (“Nachhaltige Strategien für die Welt von morgen”), focusing on the most impactful greenhouse gas: carbon dioxide. “We must treat carbon dioxide as waste, and waste usually comes with a price.” According to the climate researcher, setting a price for each tonne of carbon dioxide emitted above a certain threshold could make a major difference, steering us away from fossil fuels and towards a carbon-neutral energy system based on renewable energy.

GIANT GLOBE ON DISPLAY AT THE SILBERSALZ FESTIVAL



British artist Luke Jerram’s installation “Gaia” was displayed in Halle from 18 to 21 June 2020. Due to social distancing measures, visitors were required to book a time slot for viewing the installation in advance. But this didn’t hold anyone back – the organizers confirmed that the event was fully booked.

Images: Joachim Blobel

The Leopoldina members Alfons Labisch ML and Lothar H. Wieler ML joined Boetius and Haug among the experts at “SILBERSALZ spricht ...”. Labisch, a medical historian, and Wieler, President of the Robert Koch Institute, Germany’s lea-

ding governmental institution in the field of biomedicine, spoke on the current pandemic and on epidemics of the past. ■ LQ

► SILBERSALZ spricht ...

To be continued in October

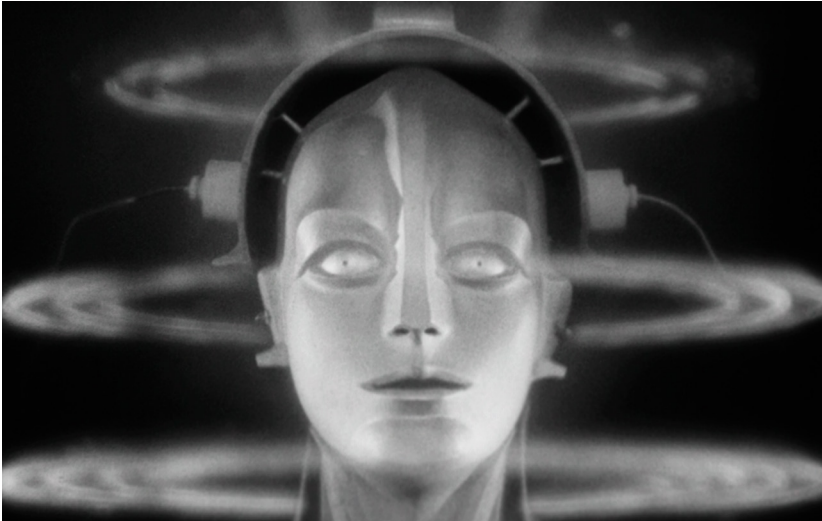
German National Academy supports SILBERSALZ Festival Conference

The second, longer part of the SILBERSALZ Science & Media Festival will take place in Halle from 14 to 18 October. The Leopoldina will be supporting the festival in particular by hosting the scientific conference “The Two Faces of Trust” on 17 October. Media representatives and scientists will use the conference to explore how the public’s trust can be (re)gained. Speakers will include blogger Hossein Derakhshan (research associate at the MIT Media Lab, Cambridge/USA), President of the Leopoldina Gerald Haug ML, science historian Jürgen Renn ML (Max Planck Institute for the History of Science, Berlin) and marine biologist Antje Boetius ML (Director of the Alfred Wegener Institute, Bremerhaven/Germany). ■ LQ

► SILBERSALZ Conference “The Two Faces of Trust”

Artificial intelligence and our understanding of the world

Centre for Science Studies' autumn conference



An early pioneer of artificial intelligence? The "Maschinenmensch" ("machine-person") from Fritz Lang's film "Metropolis" (1927).

Image: Friedrich-Wilhelm-Murnau-Stiftung, Wiesbaden, Maschinenmensch design: Walter Schulze-Mittendorf © / WSM

Artificial intelligence is a key technology in modern society. It has the potential to change many lives. It shapes how we act in the world just as it shapes how we view the world and, not least, ourselves. The Centre for Science Studies' autumn conference entitled "Artificial intelligence and our understanding of the world" ("Künstliche Intelligenz und Weltverstehen") will serve as a platform for discussing these considerations.

The conference is organized in cooperation with the early-career researcher initiative INSIST and is aimed in particular at giving young scientists the floor. It will take an interdisciplinary look at the many societal implications of artificial intelligence (AI).

For instance, Berlin-based political scientist Jascha Bareis will explore the impact of the humanization of lethal "autonomous" weapons systems and their normative requirements when deployed in war. Karoline Reinhardt, a philosopher at the University of Tübingen, will illustrate how ever-increasing computerization is shaping our view of

the world and human beings and how our values are changing as a result – both explicitly and implicitly. Political scientist Florian Hoffmann (Duisburg and Essen/Germany) will discuss the religious component that he sees to the current debate, with humans posited as tragic heroes using AI to create a new, unholy god. Finally, legal philosopher Luna Rösinger (Cologne/Germany) will focus on the legal implications of AI with regard to the concept of autonomy.

Andreas Kaminski will open the conference, set to take place from 30 September to 2 October. The philosopher from Stuttgart/Germany will hold an evening lecture addressing the epistemological basis on which machines make the decisions they do. According to him, even "intelligent" machines require justifications for their decisions.

■ RST

► Autumn conference
"Artificial intelligence
and our understanding
of the world"

EASAC/FEAM

Statement on regenerative medicine

The European Academies' Science Advisory Council (EASAC) and the Federation of European Academies of Medicine (FEAM) presented a statement on regenerative medicine in early June. They highlight that the great potential offered by regenerative medicine in clinical practice has led to a gap between expectations and reality. Moreover, analysts expect the market to continue on a path of rapid growth. This is putting regulatory authorities under increased pressure to quickly approve stem cell and gene-based treatments. EASAC and FEAM call for patients' well-being to be made the top priority, underlining the need for the EU as an important global body to defend the principles that govern public health-care regulation. ■ CSD

► Challenges and potential
in regenerative medicine

EASAC

Full assembly focused on COVID-19 pandemic

At the end of May, the full assembly of the European Academies' Science Advisory Council (EASAC) met online for the first time. Led by the new president Christina Moberg (Sweden), the meeting focused in part on the measures taken across Europe since March 2020 in response to the COVID-19 pandemic.

A second meeting was organized on 17 June specifically to expand on this topic. It focused on political advising, communication with the public, cooperation within the scientific community, and COVID-19 crisis management as a model for measures to combat climate change. ■ CSD

► COVID-19 response

People

Awards and Honours

■ **Asifa Akhtar** ML, member of the Biochemistry and Biophysics Section, has been elected Senator and Vice President of the Max Planck Society (Munich).

■ **Axel A. Brakhage** ML, member and Senator of the Microbiology and Immunology Section, has been elected Vice President of the German Research Foundation (DFG).

■ **Lorraine Daston** ML, member of the History of Science and Medicine Section, has received the Gerda Henkel Prize from the Gerda Henkel Foundation (Düsseldorf) and the Dr A.H. Heineken Prize for History from the Royal Netherlands Academy of Arts and Sciences (Amsterdam/Netherlands).

■ **Karl Deisseroth** ML, member of the Neurosciences Section, has received the Dr A.H. Heineken Prize for Medicine from the Royal Netherlands Academy of Arts and Sciences (Amsterdam/Netherlands).

■ **Ute Frevert** ML, member of the Cultural Sciences Section, has been honoured by the German Academy for Language and Literature with the Sigmund Freud Prize.

■ **Simone Fulda** ML, member of the Gynaecology and Paediatrics Section, has been named the new President of Kiel University.

■ **Jane Goodall** ML, member of the Anatomy and Anthropology Section, received an honorary doctoral degree from the Faculty of Science at the University of Zurich (Switzerland) and has been awarded the 2020 Tang Prize from the National Academy of Sciences of Taiwan.

■ **Markus Gross** ML, member of the Informatics Section, has been elected Member-at-Large of the US Academy of Motion Picture Arts and Sciences.

■ **Stefan Hell** ML, member of the Physics Section, has been elected Senator of the Max Planck Society (Munich).

■ **Ulman Lindenberger** ML, member of the Psychology and Cognitive Sciences Section, has been elected Senator and Vice President of the Max Planck Society (Munich).

■ **Thomas F. Meyer** ML, member of the Microbiology and Immunology Section, has received the Robert Koch

Gold Medal from the Robert Koch Foundation (Berlin).

■ **Christiane Nüsslein-Volhard** ML, member of the Genetics/Molecular Biology and Cell Biology Section, has been elected Honorary Senator of the Max Planck Society (Munich).

■ **Ortwin Renn** ML, member of the Economics and Empirical Social Sciences Section, has been awarded an honorary doctoral degree from Mittuniversitetet Mid Sweden University (Sundsvall and Östersund/Sweden).

■ **Robert Schlögl** ML, member of the Chemistry Section, has been appointed to the German federal government's National Hydrogen Council.

■ **Erin Schuman** ML, member of the Biochemistry and Biophysics Section, has received the 2020 Diversity Prize jointly awarded by the ALBA Network and the FENS-Kavli Network of Excellence (FKNE).

■ **Matthias Tschöp** ML, member of the Agricultural and Nutritional Sciences Section, has been appointed a member of the European Molecular Biology Organization (EMBO).

■ **Andreas Voßkuhle** ML, member of the Cultural Sciences Section, has received the Grand Cross 1st Class of the Order of Merit of the Federal Republic of Germany.

Deceased members

■ **Duilio Arigoni** ML | 6 December 1928 to 10 June 2020 | Zurich/Switzerland | Chemistry Section

■ **Michel Che** ML | 29 November 1941 to 7 August 2019 | Chemistry Section

■ **Oleh Hornykiewicz** ML | 17 November 1926 to 26 May 2020 | Vienna/Austria | Physiology and Pharmacology/Toxicology Section

■ **Horst Kleinkauf** ML | 13 November 1930 to 3 May 2020 | Berlin | Biochemistry and Biophysics Section

■ **Friedrich Stelzner** ML | 4 November 1921 to 5 June 2020 | Bonn | Surgery, Orthopaedics, Anaesthesiology Section

Imprint

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Leopoldina
Nationale Akademie
der Wissenschaften

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Abbreviations:

ML = Member of the Leopoldina