




Leopoldina
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Leopoldina news

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German National Academy of Sciences

Halle (Saale), 9 October 2020



Clear, consistent
rules for measures
to fight the
coronavirus

6th ad-hoc statement from
the Leopoldina on the
COVID-19 pandemic

Table of contents

- ▶ 3 Editorial

- ▶ 4 Nobel Prize in Physics for Leopoldina member Reinhard Genzel

- ▶ 5 Nobel Prize in Chemistry for Leopoldina member Emmanuelle Charpentier

- ▶ 6 Leopoldina urges governments: “Effective rules for autumn and winter”

- ▶ 7 Leopoldina recommends measures to move “towards a crisis-resistant education system”

- ▶ 8 New members elected to Presidium and new Global Health Section founded

- ▶ 9 Early Career Award for biodiversity researcher

- ▶ 9 New Secretary-General

- ▶ 10 Interview with Ursula M. Staudinger ML: “Research into aging requires collaboration between a number of different disciplines”

- ▶ 11 The Internationale for nationalists?

- ▶ 12 Statement for G20 summit presented

- ▶ 12 Mental health in times of COVID-19

- ▶ 13 Bilateral cooperations with Russia and South Korea

- ▶ 13 Call for a European Foundation

- ▶ 14 Interview with Ivan Đikić ML: “Brain circulation is the best solution to the European ‘science divide’”

- ▶ 15 “The Two Faces of Trust” at SILBERSALZ Conference

- ▶ 15 Award for press and public relations

- ▶ 16 News

- ▶ 17 People

- ▶ 19 Imprint

▶ 6-7



Coronavirus-pandemic: fifth and sixth ad-hoc statements published with a focus on the education system and measures to curb the pandemic.



@Leopoldina: Follow us on Twitter and become the 10,000th follower of the German National Academy of Sciences.

▶ 14



Brain drain and brain gain: interview with Ivan Đikić ML on the migration of young scientists within Europe and worldwide.

The Leopoldina on Social Media



Editorial

Dear Members and Friends of the Leopoldina,

The October issue of the Leopoldina newsletter is usually dedicated to reporting on the Annual Assembly. This year's Assembly was to have focused on the topic "Biodiversity and the Future of Variety." It has been postponed until September 2021 due to the coronavirus pandemic. While the Early Career Award 2020 will not be officially presented until the Assembly, we have already publicly announced the winner: Patrick Weigelt, a biodiversity researcher at the University of Göttingen, will be taking home the 30,000 euro prize (see page 9).



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

Image: David Ausserhofer

The annual Senate session, meanwhile – traditionally held on the eve of the Annual Assembly – was not postponed, but took place as a hybrid event. Attendees bid farewell to Gunnar Berg ML, who is leaving his role as Vice President of the Leopoldina after ten years of committed work. He is succeeded by Robert Schlögl ML, who has already made a wide range of contributions to science-based policy advice in the past, including as the spokesperson of the Academies' project "Energy Systems of the Future" (see pages 8-9).

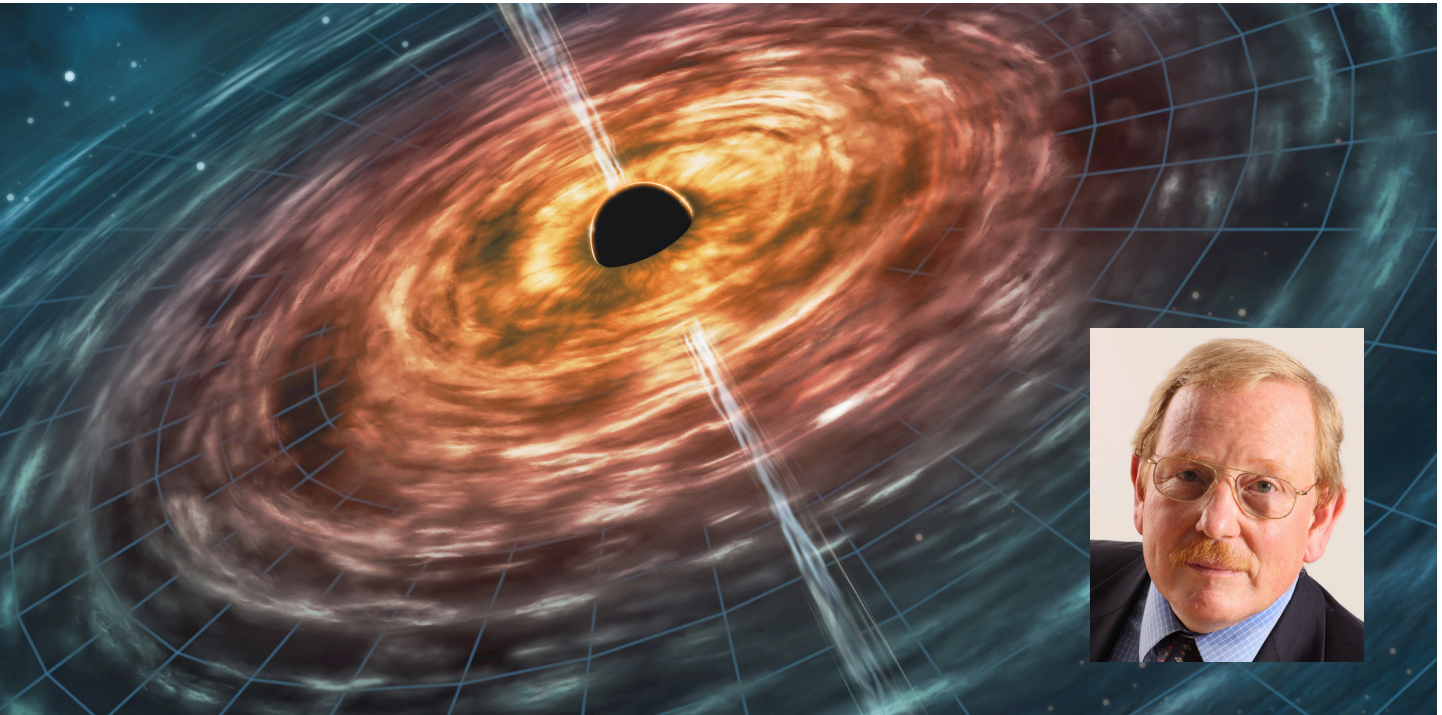
The Leopoldina's publications continue to be dominated by the coronavirus pandemic. Two new ad-hoc statements on the issue are presented in this newsletter: the fifth, "Towards a Crisis-Resistant Education System", and the sixth, on managing the pandemic in the autumn and winter (see pages 6-7). The Academy is also continuing to host events focusing on the pandemic. At the end of September, the virtual international panel discussion on the subject of the pandemic and mental health generated a great deal of positive feedback (see page 12).

I hope you find this issue an interesting and inspiring read.

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

Nobel Prize in Physics for Leopoldina member Reinhard Genzel

Astrophysicist receives the Nobel Prize together with US-American astronomer Andrea Ghez



Images: Max Planck Institute for Extraterrestrial Physics, Integral | Adobe Stock

The astrophysicist and Leopoldina member Reinhard Genzel ML is awarded the Nobel Prize in Physics. Genzel receives this distinction together with US-American astronomer Andrea Ghez for the discovery of a super-massive compact object at the center of our galaxy, the Milky Way. Both scientists are jointly awarded one half of this year's Nobel Prize in Physics. The other half is given to the British mathematician and physicist Roger Penrose for the discovery that black hole formation is a robust prediction of the general theory of relativity.

Reinhard Genzel, Director at the Max Planck Institute for Extraterrestrial Physics in Garching/Germany, is considered one of the world's leading researchers in the field of infrared and submillimeter astronomy. He has been a member of the physics section of the Leopoldina since 2002. His research

interests include the formation, evolution, and nuclei of galaxies, as well as the formation and evolution of black holes and stars. To study the structure and dynamics of such objects, Genzel and his

„We are particularly pleased that a Leopoldina member is being honored for his pioneering scientific discoveries.“

Gerald Haug ML
President of the Leopoldina

colleagues have developed a number of new observation techniques and instruments in the field of infrared, submillimeter, and millimeter astronomy. For example, through 20 years of award-winning

observations, Genzel was able to prove that there is a black hole of 4.3 million solar masses at the center of our Milky Way. He thus succeeded in providing the most substantial empirical evidence to date for the existence of black holes, which had been postulated by Albert Einstein at the beginning of the 20th century.

Leopoldina president Gerald Haug congratulates Reinhard Genzel on this prestigious award: „With this year's Nobel Prize, groundbreaking research results in the field of experimental astrophysics are recognized. We are particularly pleased that a Leopoldina member is being honored for his pioneering scientific discoveries, which shows that the Harnack Principle of the Max Planck Society is still valid“.

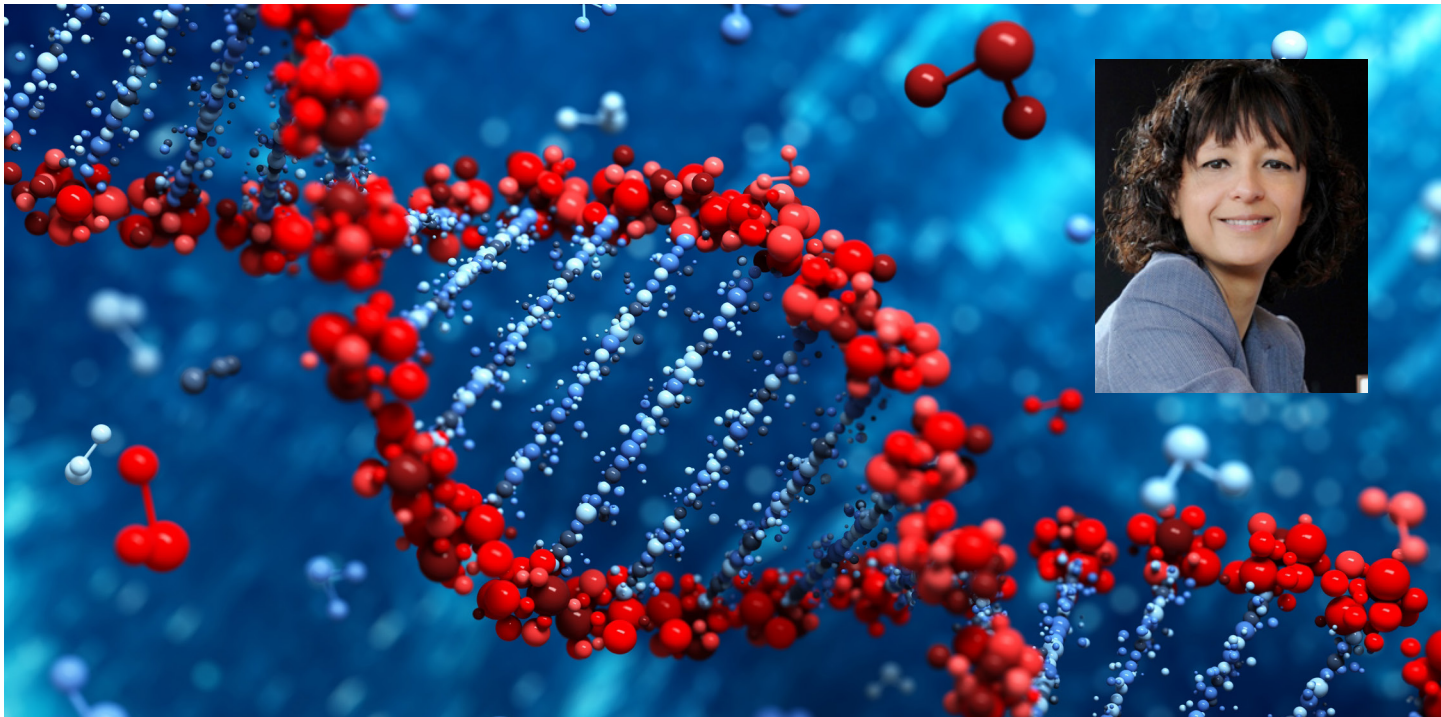
■ JK, LQ



[Reinhard Genzel](#)

Nobel Prize in Chemistry for Leopoldina member Emmanuelle Charpentier

Charpentier is awarded the Nobel Prize jointly with US biochemist Jennifer Doudna



Images: Hallbauer&Fioretti, Leigh Prather | Adobe Stock

The Berlin-based biochemist and microbiologist Emmanuelle Charpentier ML, a Leopoldina member since 2015, receives the award for the development of a method for genome editing. She is awarded the Nobel Prize jointly with biochemist and molecular biologist Jennifer Doudna (Berkeley/USA).

The President of the German National Academy of Sciences Leopoldina Gerald Haug extends his congratulations to Emmanuelle Charpentier on this prestigious award: “With this year’s Nobel Prize, groundbreaking discoveries in the field of genome research are being recognized, which hold great promise for future applications in medicine, biotechnology, animal and plant breeding. I am delighted that Emmanuelle Charpentier, an outstanding colleague of the Max Planck Society, is being honored.”

Emmanuelle Charpentier studied biochemistry and microbiology. After research stays in the USA, the scientist habilitated at the University of Vienna/Austria and then went on to Umeå Uni-

„I am delighted that an outstanding colleague of the Max Planck Society is being honored.“

Gerald Haug ML
President of the Leopoldina

versity (Sweden), where she still holds a visiting professorship. From 2013 to 2015 Charpentier was professor at the Hannover Medical School (Germany) and headed the Department of Regulation in Infection Biology at the Helmholtz Centre for Infection Research in Braunschweig/

Germany. In 2014 she was awarded an Alexander von Humboldt Professorship. From 2015 to 2018 she was director at the Max Planck Institute for Infection Biology in Berlin/Germany. Since 2018 Charpentier has been acting and founding director of the Max Planck Unit for the Science of Pathogens in Berlin.

Charpentier has been honored with numerous prizes for her scientific achievements, including the Carus Medal of the Leopoldina 2015, the Leibniz Prize 2016, and the Kavli Prize in the field of nanosciences 2018. In addition, she was awarded the Order of Merit of the Federal Republic of Germany in 2019. The Leopoldina has more than 1,600 members, with a current 34 Nobel laureates among them.

■ LQ, JK



[Emmanuelle Charpentier](#)

Leopoldina urges governments: “Effective rules for autumn and winter”

Sixth ad-hoc statement on the coronavirus pandemic highlights rising number of infections

The number of new coronavirus infections is rising once again in Germany and elsewhere. To prevent the virus from spreading at the uncontrollable rate seen earlier in the pandemic, the Leopoldina’s sixth ad-hoc statement on the issue appeals to all responsible parties at the federal and state levels to quickly agree on clear and standardized corona rules.

The authors highlight the fact that SARS-CoV-2 infections are already rising faster in other European countries such as France, Spain, the Netherlands and Austria, as well as in Israel, than they are in Germany. Even optimistic estimates do not expect a vaccine to be available in sufficient quantities before next spring. Attempts to treat infected patients with medication have so far met with limited success. Meanwhile, as the cold and flu season begins, it will become more challenging to differentiate COVID-19 from illnesses with similar symptoms.

In this context, the German National Academy is calling on players on a na-

“In the coming weeks, we need to see clear, consistent rules and transparent communication.”

Gerald Haug ML
President of the Leopoldina

tional and a federal level in Germany to quickly agree on national, effective and standardized rules for preventive measures. It is also urging the authorities to implement and enforce these measures more consistently than they have done so far. “In the coming weeks, we need to see clear, consistent rules to ensure the



Wearing a mask is one of the easiest and most effective ways to help prevent further coronavirus infections as the pandemic continues.
Image: snedorez | Adobe Stock

strict implementation of the measures imposed to curb the pandemic. There is also a need for transparent communication of how political decisions are made, on what basis and with what aim,” explained the Leopoldina President Gerald Haug ML, one of the authors of the ad-hoc statement.

To keep the number of new infections low over the coming months, the Leopoldina is recommending three measures in particular: rigorous adherence to the protective measures in place; rapid, targeted testing; and shorter quarantine and self-isolation periods.

The authors emphasize that the “AHA” rules promoted by the national government – the German acronym stands for physical distance, hygiene, and wearing masks – remain the most significant and effective way of keeping the pandemic under control, along with regular air exchange in enclosed spaces. The coming autumn and winter could well be a challenging period, and so the statement calls

for uniform rules and escalation levels for protective measures which can take effect based on regional patterns of infection. Targeted testing based on the risk of infection, along with the test procedures independent of laboratories, would make it possible to distinguish more quickly between a SARS-CoV-2 infection and other illnesses with similar symptoms such as the flu. Lab tests could also be used to estimate a person’s current level of infectivity. This measure could minimize the impact on individuals and their families as well as the economy and society as a whole.

The statement also emphasizes that the public need targeted, easily accessible information tailored to specific target groups which sets out clear rules for them to follow. ■ JK, DW

Ad-hoc statement
“Coronavirus pandemic:
Establishing effective rules
for autumn and winter”

Leopoldina recommends measures to move “towards a crisis-resistant education system”

Fifth ad-hoc statement on the coronavirus pandemic looks at changes in the education system

The coronavirus pandemic and all measures taken to curb the spreading of the infection led to a large-scale closure of day nurseries and schools earlier this year. For weeks, these institutions were unable to properly fulfil their crucial role in children’s upbringing and education. With its fifth ad-hoc statement on the coronavirus pandemic at the start of August, the Leopoldina presented recommendations to help move “towards a crisis-resistant education system.”

As the pandemic continues, the authors of the statement believe that the education system needs to undergo further changes. They write that the primary goal should be “to allow attendance at children’s day-care centers and schools to remain as consistent as possible.” This means reducing the risk of infection as much as possible. The statement recommends introducing systematic coronavirus testing as well as hygiene and precautionary measures. Children should be organized into closed epidemiological groups or “bubbles” and the specific needs of high-risk children and staff should be taken into account.

Partial closures of schools are to be expected in the coming months. Such temporary closures in response to local infection rates have already occurred in some places. According to the authors, this means that investments must be made in a suitable and secure digital infrastructure as well as a sustainable system of remote learning as a supplement to classroom learning. The education researcher Olaf Köller, one of the authors, gives the example of school clouds using standardized software. “That won’t work without teaching strategies and, in particular, without teachers who are able to teach online,” he says, summarizing one of the conclusions of the statement. Other recommendations are training for



School-based learning and social interaction are crucial for children and young people, even during the coronavirus pandemic.

Image: pololia | Adobe Stock

teaching staff and technical support for schools.

At the same time, the ad-hoc statement points out that relatively little funding has been made available to address

“Relatively little is being invested in the human capital of the generation which will be helping to shoulder the debts from the pandemic.”

Regina T. Riphahn ML
Vice President of the Leopoldina

the effects of the pandemic on childcare and education, compared to other areas. The authors include experts in educational studies, educational research, didactics, psychology, economics, sociology, theology, virology, and medicine. “Relati-

vely little is being invested in the human capital of the generation which will be helping to shoulder the debts from the pandemic,” explains the economist Regina T. Riphahn ML, Vice President of the Leopoldina and another of the statement’s authors. She sees it as essential to investigate the impact of school closures on children and young people’s educational and professional prospects, and to prevent specific groups from being disadvantaged.

The statement is intended for policy-makers and decision-makers within the national educational system – government ministries, institutions within the federal states, and individual day-care centers and schools as well as the providers that run them. ■ DW

Ad-hoc statement
“The Coronavirus
Pandemic: Towards a
Crisis-Resistant
Education System”

New members elected to Presidium and new Global Health Section founded

Leopoldina Senate session held in September as planned / Annual Assembly postponed to 2021

The Senate of the Leopoldina traditionally meets just before the Annual Assembly. While the Annual Assembly for 2020, “Biodiversity and the Future of Variety”, had to be postponed until next year due to the pandemic, the Senate session was able to go ahead on 24 September as planned. It was held in hybrid form with around 30 people attending in person in Halle and the same number participating remotely using videoconferencing software.

The Academy’s Executive Board informed the senators and guests at the session in detail about current developments in the Leopoldina and about important topics in the areas of political and social policy advice, international activities, and press and public relations. The Board was also discharged from responsibility for the 2019 financial year. One key item on the agenda was the election of new Presidium Members and ad personam senators.

Robert Schlögl ML (Berlin/Germany) was appointed the new Vice President of the Leopoldina for Mathematics, Natural Sciences and Engineering. He is a member of the Chemistry Section and Director of the Fritz Haber Institute of the Max Planck Society in Berlin as well as Director at the Max Planck Institute for Chemical Energy Conversion (Mülheim an der Ruhr/Germany). His research focuses on heterogeneous catalysis and materials for energy storage technologies. Schlögl succeeds the physicist Gunnar Berg ML (Halle/



The Senate of the Leopoldina appointed Robert Schlögl as Vice President and Ute Frevert as Secretary of Class IV.



Images: Markus Scholz | Leopoldina, Arne Sattler

Germany), who could not be re-elected as Vice President after two terms in office.

Schlögl is joined in the Presidium by Ute Frevert ML (Berlin/Germany), who will be taking over the role of Secretary for Class IV, Humanities, Social and Behavioral Sciences. She is a historian within the Cultural Sciences Section and Director of the Research Center “History of Emotions” at the Max Planck Institute for Human Development in Berlin. Her research looks

at modern political, social and cultural history. The construction and interpretation of gender differences play a significant role in her work. She succeeds

the psychologist Frank Rösler ML (Potsdam/Germany), who could not be re-elected after serving two terms as the Secretary of Class IV.

The plant geneticist Ulla Bonas ML (Halle/Germany) was re-elected as Vice President for Life Sciences, while the computer scientist Thomas Lengauer ML (Bonn/Germany) also won a second term as Presidium Member.

The medical historian Heinz Schott ML (Bonn/Germany) left the Presidium after a decade serving as its commissioner of archives, library, and long-term projects.

In addition to the senators elected by the Sections, the Senate’s statutes allow for the inclusion of up to ten additional members, who do not necessarily have to be members of the Leopoldina. Five of these members are elected ad personam. They are chosen from among leading representatives of research organisations and other scientific bodies.



The Presidium at the German National Academy of Sciences in September 2020 following the Senate session at the Leopoldina in Halle.

Image: David Ausserhofer | Leopoldina

The ad personam members of the last four years are Nikolaus von Bomhard (Munich/Germany), Uta Frith ML (London/UK), Ursula Gather (Essen/Germany), Renate Köcher (Allensbach/Germany) and Birgitta Wolff (Frankfurt am Main/Germany). All were eligible to serve a second and final term of four years. Uta Frith chose not to stand for re-election due to her age. She is succeeded by Georg Schütte (Hannover/Germany), who became Secretary General of the Volkswagen Foundation this year and previously served as state secretary within the German Federal Ministry of Education and Research from 2009 to 2019. The other ad personam senators were re-elected by the Senate with a sizeable majority.

The Senate also decided on an extension of its ruling that female scientists are not to be counted towards the maximum number of new members who can be appointed to the Leopoldina by the Classes. This will now apply until 2025. It was originally agreed by the Senate in 2005 for a period of five years and was subsequently renewed in 2010 and 2015 for five years each time, having contributed to an increased proportion of female scientists in the Academy's membership.

Furthermore, the Senate agreed on the founding of the new Leopoldina Section "Global Health". The section will be part of Class III – Medicine and will include scientists from the fields of public health, global health, health economics, health informatics, biomathematics, biometry, environmental medicine, health psychology, health communication, medical sociology, nutritional medicine, medical ethics and other thematically relevant areas.

Finally, the Leopoldina's Executive Board reported on the status of preparations for the Annual Assembly taking place from 24 to 25 September 2021 in Halle, with the topic originally planned for 2020: "Biodiversity and the Future of Variety." ■ ART, JB



Presidium of the Leopoldina

EARLY CAREER AWARD FOR BIODIVERSITY RESEARCHER



Patrick Weigelt investigates plant diversity on islands – as seen here with students on a field trip to Tenerife. He is this year's winner of the Leopoldina Early Career Award for his research on biogeography. A biodiversity researcher at the University of Göttingen, he is fascinated by the way that island flora changes over time. He investigates how humans contribute to the spread of plants beyond their original habitats, for example through climate change. The award is also partly in recognition of his work developing databases. He compiles information on regional flora, plant characteristics and local geography. His databases provide a valuable resource for fellow researchers. The Early Career Award is endowed with €30,000 provided by the Commerzbank Foundation. The official award ceremony is scheduled for September 2021 on the occasion of the Leopoldina's Annual Assembly themed "Biodiversity and the Future of Variety." ■ VB/Image: Holger Krefz

New Secretary-General

The German National Academy of Sciences Leopoldina has a new Secretary-General. The science manager Franziska Hornig will be taking over from Jutta Schnitzer-Ungefug, who is retiring after 20 years as head of the Leopoldina Office.

Franziska Hornig studied business economics at Osnabrück University of Applied Sciences in Germany and Ajou University in Suwon/South



Image: Markus Scholz | Leopoldina

Korea. She then specialized in science management at the German University of Administrative Sciences Speyer. She has worked in project funding at the German

Aerospace Center in Bonn and grant management at the Institute of Molecular Biology in Mainz, as well as holding management positions in research funding at the University Medical Center Mainz and in administration at the Max Planck Institute for Polymer Research in Mainz.

Her predecessor, the neurobiologist Jutta Schnitzer-Ungefug, became Secretary-General of the Leopoldina in 2000 and guided the expansion of the Leopoldina Office after the Leopoldina was named German National Academy of Sciences in 2008. Another major undertaking was the renovation of the 19th-century building on the Jägerberg in Halle and its inauguration as the new headquarters.

The Secretary-General assists the Executive Board with day-to-day business and is responsible for the Leopoldina Office and the administrative affairs of the individual departments. ■ JK, CW

“Research into aging requires collaboration between a number of different disciplines”

Ursula M. Staudinger ML on the future of research into aging and the human lifespan



It's possible to influence every individual's life expectancy and quality of life. The factors and conditions at play, such as the effects of living in a city, are one focus of aging and lifespan research.

Image: Franz Pfluegl | Adobe Stock

On 24 November, the Leopoldina will present the public with a new Report on Tomorrow's Science: "Research for Longer Lives: The Future of Aging and Lifespan Research in Germany." The report was authored under Ursula M. Staudinger ML, one of the leading international researchers in the field of aging.

Why do we need research into aging and lifespan at all?

Ursula M. Staudinger: Because more people are living to a higher age than ever before, and that has a far-reaching impact on all of our lives. Average life expectancy has increased by 40 years over the last 150 years. This has a transformative effect on work, health, education and family relationships, as well as culture and political activity. Our increased life

expectancy shows how fundamentally we humans are able to shape our lives, how the aging process works, and so it's essential for us to know more about how societal and environmental changes, as well as changes in human behavior and experience, affect our lifespan, well-being and health.

Which aspects of this research would you say affect me personally?

Staudinger: The basic question is, of course: How can I live longer? Followed by: How can I live well for longer? When do I have to set the course to ensure a successful career or a healthy old age? Can I still change course when I'm 50? Research into aging and lifespan also looks at the timeline of education, training and jobs over a longer life, and at the effect of different timelines. And it

examines what we can do to help ensure that a greater average life expectancy doesn't result in greater consumption of natural resources. So the findings affect the future of our country and of every individual in it.

The Report on Tomorrow's Science "Research for Longer Lives" looks at the current state of this research in Germany. How would you summarize the analysis?

Staudinger: The key finding is that research funding is very unevenly distributed across the relevant disciplines. Aging is the result of combined biological, lifestyle and sociocultural factors. To conduct proper research, a broad interdisciplinary approach is needed, individual disciplines have to be brought together, and currently there isn't

enough support for that. There is a great deal of funding for medical research and research into technological assistance systems for old age. But other important fields are neglected, such as sociological lifespan research, social history, economics and political science, as well as regional research and work on experience and behavior.

So the importance of this research for society as a whole is not recognized?

Staudinger: Unfortunately, that's true. Research funding is allocated in line with a primarily deficit-based view of aging.



Ursula M. Staudinger ML

Rector of Technical University Dresden/Germany and long-standing spokesperson of the Standing Committee "Demographic Change" at the Leopoldina. Staudinger is a psychologist by training. Her research explores how the aging process can be influenced and how it affects demographic change.

Image: Michael Frank

The focus is on curing diseases and on compensating for deficits through the use of technology. That's the perceived social value of research into aging at the moment. But illness isn't the only thing that happens as we age. Over the course of our lives we experience changes in our way of thinking, emotions, desires and actions, and it's crucial to explore these changes in order to understand their consequences as well as their biopsychosocial causes. Only when we understand all of this

can we take action as a society to help ensure that as many people as possible enjoy a healthy, fulfilling and productive old age.

The report was drawn up by the Standing Committee "Demographic Change". Why is the Leopoldina in particular predestined to explore this issue?

Staudinger: Because the Leopoldina is unique in the way that it brings together all of the different disciplines under one roof and, specifically, gathers the best of the best from each discipline – not to mention that it doesn't need to represent any particular interest of its own. This combination of breadth, excellence and neutrality is something you won't find at any other scientific institution in Germany. For aging research, this is the ideal starting point to develop potential solutions for societal issues and, as with the Report on Tomorrow's Science, to take stock of the state of research in Germany. Demographic change is going to be one of the major societal challenges of the coming decades, meaning it will be a permanent fixture on the German National Academy's agenda.

■ THE INTERVIEW WAS CONDUCTED
BY CHRISTINE WERNER

PRESENTATION ON 24 NOVEMBER

What kinds of research can help us to address the challenges of longer life expectancy and demographic change? How does Germany perform in this field in comparison to other countries with strong research output? The Leopoldina Report on Tomorrow's Science "Research for Longer Lives: The Future of Aging and Lifespan Research in Germany" answers these questions with a multidisciplinary overview of research fields and funding, and recommends ways to improve funding of innovative, future-oriented research into aging in Germany. It will be presented at a Zoom conference on 24 November.

▶ Information and registration

The Internationale for nationalists?

Debate by the Leopoldina and the Halle Institute for Economic Research



Illustration: Pixabay | Elionas2

Despite everything it has achieved, European integration remains unpopular with broad swathes of the public. Today's populist movements generally call for a return to the nation-state, and they are reinforcing existing currents of Euroscepticism. In response to this trend, the Leopoldina began organizing "Europe debates" last year in collaboration with the Halle Institute for Economic Research (IWH). These debates bring together well-known researchers and politicians for heated discussions on the key issues of European policy.

The next event on 15 October will focus on the question "Populist movements – where do they come from and how can we respond to them?" The linguist Ruth Wodak from Lancaster University (UK) will take to the stage alongside the political scientist Werner J. Patzelt of TU Dresden (Germany).

The debate will be broadcast live on the Leopoldina's YouTube channel. Anyone wishing to attend in person must register and receive confirmation in advance.

■ ART

▶ Registration
europa-debatte@leopoldina.org

Statement for G20 summit presented

Tapping the potential of international cooperation

In the run-up to the summit of the Group of Twenty (G20) countries in November 2020, the national academies of sciences of the participating nations presented their joint statement “Foresight: Science for Navigating Critical Transitions” and handed it over to the Saudi Arabian G20 Presidency on 26 September.

In their statement, the academies emphasize the complex challenges to global economic, ecological and social stability which have been exacerbated by the coronavirus pandemic. They write that scientists can help to tackle these challenges and to navigate upheaval and critical global transitions more smoothly. Health issues, sustainability and digitization have been identified as priorities in the report. In these areas, say the authors, it is necessary to act with foresight in order to recognize impending risks early on, take countermeasures and tap the potential offered by international cooperation.

Providing science-based policy advice to the heads of state and government of the G20 nations is one of the Leopoldina’s key strategic tasks in the field of international cooperation. The so-called Science20 dialogue forum was launched in 2017 during Germany’s G20 Presidency and coordinated by the Leopoldina. Italy will take over the G20 Presidency in 2021. ■ CHW

G20 statement for 2020
„Foresight:
Science for Navigating
Critical Transitions“



Mental health in times of COVID-19

Online discussion series “Leopoldina International” continues



The COVID-19 pandemic is damaging people’s mental as well as physical health worldwide.

Image: jiris | AdobeStock

The English-language virtual panel discussion series “Leopoldina International” addresses topical issues related to the COVID-19 pandemic. The new format debuted in July with a focus on contact tracing via apps, and continued in September with a second event dedicated to mental health.

The COVID-19 pandemic is confronting many people around the world with anxiety, fear and uncertainty. This may relate to their financial situation, social interaction or physical well-being – and there is still no end to this exceptional situation in sight. How is the pandemic affecting people’s mental health?

The German National Academy of Sciences Leopoldina and the Academy of Science of South Africa held the virtual panel discussion “The Hidden Crisis: Mental Health in Times of COVID-19” on 28 September in order to explore this issue with experts from Germany, South Africa, Spain and Nigeria.

According to the psychiatrist and panel host Marcella Rietschel ML, mental disorders were among the primary causes of the global burden of disease even before the COVID-19 pandemic. “The

pandemic and the restrictions introduced to fight it have caused a major increase in substantial risk factors for mental disorders, such as anxiety, stress and social upheaval. As a result, we can expect to see an acute and relatively long-term increase in mental disorders,” she explained. “So we should all be concerned with taking prompt, targeted action to address this trend.”

The international panel, including Andreas Heinz ML as the Leopoldina’s representative, underlined their agreement and highlighted that a great deal needs to be done around the world. But this will not be easy, as made clear by the discussion of healthcare systems. The panel pointed out that demand for professional counselling and support considerably outstrips the available capacity. They also addressed the medical aspects of mental health as well as measures to protect the public from COVID-19, possible paths of action, and the task of advising politicians and the public. ■ JN

Virtual Panel Discussion
„The Hidden Crisis“

Bilateral cooperations with Russia and South Korea

Leopoldina supports scientific and technological cooperation

Bilateral cooperation between Germany and other countries in the field of science and research is often based on an Agreement on Scientific and Technology Cooperation (STC). This summer, STC sessions were held with Russia and South Korea to discuss the results of Germany's partnership with the two countries to date as well as plans for the future. The Leopoldina played an active role in both meetings.

The annual meeting of the mixed German-Russian STC committee was held online on 25 June with over 130 attendees. The discussion followed the structure of the German-Russian Roadmap for Cooperation in Education, Science, Research and Innovation, which was signed at the end of 2018.



Image: Olkesii | AdobeStock

The Russian side emphasized their desire to work more closely with Germany on scientific and educational matters, including during the COVID-19 pandemic. Attendees discussed proposals for expanding the areas covered by the roadmap. There was a particular focus on research into quantum technology, hydrogen technology, brain science, climate science and artificial intelligence.

Another item on the agenda was the idea of founding a bilateral coordination council for young people working in science and industry as part of the roadmap. The council would be run by the Leopoldina. The participants addressed the ad-

ministrative and financial limitations on the Russian side and emphasized both countries' desire to realize the project in the near future. However, the extremely tense political situation only adds to the existing difficulties.



Image: Olkesii | AdobeStock

The Leopoldina was also involved in the sixth STC session with South Korea, which was held via videoconference on 23 June. The Academy took this opportunity to talk about the strategic partnership it has maintained since 2012 with the Korean Academy of Science and Technology (KAST), reporting on their joint activities to promote scientific dialogue. While the symposium "Artificial Intelligence" planned for February 2020 in Seoul/South Korea had to be postponed, the Leopoldina and KAST have been in close contact in recent months to discuss the medical and societal impact of the pandemic.

The core aims of the STC agreements are to expand bilateral relations, open up regions of interest to researchers from both countries, and enable participation in international research programmes. Germany has signed agreements with almost 50 countries. ■ LB, CHW

Bilateral partnership

▶ Russia

▶ South Korea

CALL FOR A EUROPEAN FOUNDATION

In June, 76 prominent scientists from 16 European countries – including ten members of the Leopoldina – called for the creation of a philanthropic European Foundation for the Prevention of Environmental and Health Crises.

BY ULLA BONAS ML
AND ROLAND LILL ML*

The goal of the foundation is to develop non-governmental and science-based responses to the key challenges facing society, such as the ongoing coronavirus pandemic, the climate crisis, world hunger and an energy policy for the future. The idea behind the European Foundation is to provide rational, nonpartisan analyses of future global issues and offer science-driven solutions. Taking the Bill & Melinda Gates Foundation as a model, the signatories hope to raise an initial endowment of 20 billion euros, emphasizing that the level of private charitable donations in Europe is only about a third of that in the USA. Particularly in times of intense rivalry between the continental power blocs, the partnership between European philanthropists and the independent scientific community could forego bureaucratic obstacles, allowing the Council of Donors to make an independent decision to respond to new societal challenges in order to provide socially responsible support to innovative companies. Uniting European donor efforts from the twenty-seven EU countries under the aegis of one single foundation will provide the means for large-scale action to address health and environmental challenges for many years to come. Should the foundation succeed, it would be a clear signal of solidarity and societal commitment that would strengthen Europe.

* Ulla Bonas, Vice President of the Leopoldina, and Roland Lill, member of the Leopoldina are among the scientists who have endorsed the appeal.

▶ European Foundation

“Brain circulation is the best solution to the European ‘science divide’”

Leopoldina member Ivan Đikić on migration of scientists

This year’s EuroScience Open Forum (ESOF) in Trieste (Italy) also addressed the migration of highly skilled individuals and the balance between brain drain and brain gain in Europe and globally. Ivan Đikić ML was the German representative in the panel discussion jointly organized by the Leopoldina and science academies from Israel, Italy, France, and Poland. In this interview, he reflects on the discussion and his very own experiences.

Could you please briefly summarize your academic career?

Ivan Đikić: My career has been both dynamic and migratory. I studied in Zagreb in Croatia, pursued my PhD and post-doctoral training in New York in the US, started an independent research group in Uppsala in Sweden and then came to Frankfurt (Main) to take up a professorship at Goethe University. I also maintained outstation labs in Split in Croatia, at the biotech company Genentech in San Francisco in the US and at the Max-Planck-Institute of Biophysics in Frankfurt/Main.

Looking at the many locations where you have worked, what are your thoughts on and experiences with brain drain?

Đikić: The migration of highly skilled individuals is often linked with economic losses for the countries of origin, known as brain drain. However, we must differentiate: Migration and internationalization are important parts of career development, allowing curious people to expand their knowledge, gain new skills and benefit from others’ experiences. Today, brain drain is a very serious problem for Eastern and Southern European countries. Nevertheless, brain drain can turn into brain gain. For this, affected countries must focus their investments and programs to attract the



Leopoldina member Ivan Đikić knows the advantages and disadvantages of brain circulation from personal experience. The biochemist is currently researching the molecular causes of cancer and infectious diseases in Frankfurt (Main).

Image: LEAP Summit Croatia 2019

researchers who have left, thus importing new knowledge and technologies.

Brain circulation is usually being portrayed as a triple-win situation: for migrants, countries of origin and countries of destination. What is so intriguing about this concept?

Đikić: I think brain circulation is the best solution to the European ‘science divide.’ The concept is deeply anchored in the scientific community. Scientific teams from various countries working together – this is an essential part of our scientific life. Often, young scientists decide to move for a few years to a different country in order to evolve. Still, their countries of origin have numerous ways to attract them back and promote technology transfer, including virtual programs in these COVID-19 days. These people are the future of their countries. We already have EU schemes to support brain circulation, but we need more ac-

tion that is effective in reducing the ‘divide,’ or gap.

So how can we close this gap?

Đikić: Countries that embrace diversity and cultural differences, invest in science and technologies, and where people feel safe and trust the system are often the most attractive for immigration. For those reasons, Germany, the Nordic countries and the UK, for instance, are very popular destinations. Having a network of talented people linked via multinational projects would be a strong asset for Europe. All countries can take advantage of such networks or consortia to create new scientific bridges and social, cultural, and business relationships. Countries and scientists alike should understand that it is wise to fully use the opportunities offered by Europe and to create new ones.

■ THE INTERVIEW WAS CONDUCTED
BY LUCIAN BRUJAN

“The Two Faces of Trust” at SILBERSALZ Conference

Leopoldina hosts gathering of science and media



Leopoldina member Antje Boetius presenting the SILBERSALZ Festival 2020. She will speak about methods and culture of science at the event's scientific conference in October. Image: Joachim Blobel

The SILBERSALZ international science and media festival will be held in Halle from 14 to 18 October this year. The Leopoldina is partnering with the festival to support the scientific conference on 17 October. In keeping with the theme “The Two Faces of Trust”, the conference addresses the role of public trust in science and the media.

The welcome address by the President of the Leopoldina Gerald Haug ML will discuss the effect of institutions such as the Leopoldina on public trust in science. Media experts will be joined by presenters from the scientific community, including Jürgen Renn ML (Max Planck Institute for the History of Science, Berlin/Germany) and Antje Boetius ML (Alfred Wegener Institute, Bremerhaven/Germany).

In his presentation, the historian Renn will draw connections between the history of trust in science and the development of an autonomous and efficient knowledge economy. Boetius, a marine biologist, will address the future of human life on our planet and examine debates on science-based risk assessment, the power of collaboration for en-

sureing an equitable response to climate change and the lessons we can learn from the coronavirus crisis.

The chair of the SILBERSALZ festival's advisory board is keen to impart the methods and culture of science. “How do we approach reality and truths? How do we handle uncertainty? How can science support diverse voices? And given that research is dedicated to innovative ideas and new discoveries, how important is it that findings do not always reflect majority opinions, but are also represented by individual voices seeking to be heard and evaluated?” Boetius asks. She further stresses that the conference “thrives on interaction between science and the media, which requires spaces of trust to promote communication and to serve and help develop society.”

Dialogue at the conference is not limited to representatives of science and the media, however. All interested parties are encouraged to interact with the presenters via an online platform. ■ LQ



SILBERSALZ Conference
„The Two Faces of Trust“

On our own behalf

Award for press and public relations



Press and public relations team of the Leopoldina. Image: Christof Rieken | Leopoldina

The Leopoldina's press and public relations department will be honored with this year's prize for science communicators by the blog “Wissenschaft kommuniziert” (Science Communicates). More than 700 science and medicine journalists in Germany, Austria and Switzerland were invited to vote on the award. In particular, the department is given credit for its work during the coronavirus pandemic.

The Leopoldina started issuing ad-hoc statements about the pandemic early on, which sharply increased the Academy's prominence. The department gained extensive experience in risk and crisis communication as well as with the dynamics of social media. “It was a group effort and it bonded us together,” says Caroline Wichmann in response to the distinction. Wichmann has degrees in public administration, cultural management and political science and has been in charge of press and public relations at the German National Academy of Sciences Leopoldina since 2009.

This is the third time that Wichmann and her team have been chosen as Research Spokesperson of the Year in the category of research organizations, administrations and foundations. The award is presented in three categories each year. ■ RED

SAPEA

Nutrition from a social science perspective

The most recent report of the project consortium Science Advice for Policy by European Academies (SAPEA) adds a social science perspective to the many scientific studies on the transition to a sustainable food system, arguing that the change from linear mass consumption to a circular economy will require altering norms and routines. According to the report, such changes in behavior must be made collectively and will require integrated leadership at the local, national and international levels. Measures such as taxation, accreditation and labelling must also be applied in concert. ■ NH

► Sustainable Food System for the European Union

Junge Akademie

New member of All European Academies

Die Junge Akademie has been selected to join the All European Academies (ALLEA) as the first representative of the next generation of academics. The association of scientific academies counts more than 50 members from over 40 member countries of the Council of Europe, including the German National Academy of Sciences Leopoldina. As an independent institution, ALLEA advocates interdisciplinary, international and free scientific inquiry. Die Junge Akademie hopes to draw on the broad specialist knowledge and interdisciplinary expertise of its members to strengthen the European science sector and promote a common, free and independent research system. ■ CCW

► ALLEA selects Junge Akademie

CIRCLE OF FRIENDS AWARDS BAUSCH FELLOWSHIP

The US-American Tracy Wietecha has been awarded the 2020 Johann-Lorenz-Bausch Fellowship by the Friends of the Leopoldina Academy. Named after the Academy's founder, the 5,000 euro prize recognizes young researchers working in the field of the history of science. During her fellowship, Wietecha, a doctoral candidate at Ludwig Maximilian University of Munich, will spend four months at the Leopoldina's Centre for Science Studies, where she will search the collections for evidence of relationships between the Academy's members and networks in Peru, Brazil and Mexico in the 17th century. Her research is specifically concerned with what information they may have gleaned about sicknesses and medical procedures through trips to the New World like the one by Jacobus Lachmund ML in 1624. ■ JSU

Image: Markus Scholz | Leopoldina



GYA

Implementing sustainability goals

The Global Young Academy published a conference statement reflecting transdisciplinary and global perspectives of early to mid-career researchers on the topic "Heal the Earth: Sustainable Development Goals in a Changing World." The statement addresses challenges in the areas of global health, diminishing resources, science engagement, and higher education in times of crisis. The young researchers emphasize the importance of sharing resources, through open science, science diplomacy and global research cooperation, as well as establishing trust in science through quality science communication, science journalism and improved public science literacy. ■ JP

► Heal the Earth

IAP

Communiqué on structural racism

In a communiqué, the InterAcademy Partnership (IAP) took a clear stand against structural racism and discrimination in all its forms, while also calling upon the scientific community to actively address malpractices in this area. This stance should be reflected in the academies' internal and external structures, and science's inclusive and equitable role should be advocated through their public image.

The COVID-19 pandemic has laid bare the ways that ethnic and social factors often affect access to and quality of medical care. In light of this, the IAP also advocates health equity. The IAP is a network consisting of more than 140 academies from science, engineering and medicine. ■ JMO

► On Combatting Racism and Discrimination

People

Awards and Honors

- **Katja Becker** ML, member of the Microbiology and Immunology Section, has been named vice chairwoman of the Governing Board of the Global Research Council.
- **Jens Claus Brüning** ML, member of the Genetics/Molecular Biology and Cell Biology Section, was awarded the 2020 EASD-Novo Nordisk Foundation Diabetes Prize for Excellence by the European Association for the Study of Diabetes (EASD) as well as the 2020 Ernst Schering Prize by the Schering Stiftung (Berlin, Germany).
- **Caroline Dean** ML, member of the Organismic and Evolutionary Biology Section, received the 2020 Royal Medal by the Royal Society (UK).
- **Ottmar Edenhofer** ML, member of the Economics and Empirical Social Sciences Section, was honored with the German Environmental Prize by the German Federal Environmental Foundation (DBU).
- **Herbert Fischer** ML, member of the Earth Sciences Section, was appointed honorary member of the German Meteorological Society.
- **Martin Hairer** ML, member of the Mathematics Section, received the 2021 Breakthrough Prize in Mathematics (USA).
- **Tadamitsu Kishimoto** ML, member of the Microbiology and Immunology Section, was awarded the 2020 Tang Prize in Biopharmaceutical Science from the National Academy of Sciences of Taiwan.
- **Brigitte Röder** ML, member of the Psychology and Cognitive Sciences Section, received the 2020 Wilhelm Wundt Medal of the German Psychological Association (DGPs).
- **Bernhard Schölkopf** ML, member of the Informatics Section, has received the German Artificial Intelligence Award (“Deutscher KI-Preis”) 2020 from the daily newspaper WELT.
- **Bettina Schöne-Seifert** ML, member of the Epistemology Section, was awarded the Bielefeld Science Prize of the Sparkasse Bielefeld Foundation.
- **Julian Schroeder** ML, member of the Genetics/Molecular Biology and Cell Biology Section, was honored with the Stephen Hales Prize by the American Society of Plant Biologists (USA).
- **Susan Trumbore** ML, member of the Agricultural and Nutritional Sciences Section, received the 2020 Balzan Prize from the International Balzan Prize Foundation (Italy).
- **Friedhelm von Blanckenburg** ML, member of the Earth Sciences Section, was accepted into the Academia Europaea.

New Class I members

- **Donna Blackmond** ML, La Jolla/USA, Scripps Research, Department of Chemistry (Chemistry Section)
- **Eberhard Bodenschatz** ML, Göttingen/Germany, Max Planck Institute for Dynamics and Self-Organization (Physics Section)
- **John P. Burrows** ML, Bremen/Germany, University of Bremen, Institute of Environmental Physics and Remote Sensing (Earth Sciences Section)
- **Richard Catlow** ML, London/UK, University College London, Department of Chemistry (Chemistry Section)
- **Stefanie Dehnen** ML, Marburg/Germany, Philipps-Universität Marburg, Department of Chemistry, Inorganic Chemistry (Chemistry Section)
- **Helmut Dosch** ML, Hamburg/Germany, Deutsches Elektronen-Synchrotron DESY, A Research Centre of the Helmholtz Association (Physics Section)
- **Sibylle Günter** ML, Garching/Germany, Max Planck Institute for Plasma Physics (Physics Section)
- **Ingo Krossing** ML, Freiburg/Germany, University of Freiburg, Institute of Inorganic and Analytical Chemistry (Chemistry Section)
- **Johan Rockström** ML, Potsdam/Germany, Potsdam Institute for Climate Impact Research (Earth Sciences Section)

■ **Albrecht Schmidt** ML, Munich/Germany, Ludwig Maximilian University of Munich, Institute of Informatics (Informatics Section)

■ **Joachim Spatz** ML, Heidelberg/Germany, Max Planck Institute for Medical Research, Department of Cellular Biophysics (Physics Section)

■ **Armido Studer** ML, Münster/Germany, University of Münster, Organisch-Chemisches Institut (Chemistry Section)

■ **Ulrike von Luxburg** ML, Tübingen/Germany, University of Tübingen, Department of Computer Science (Informatics Section)

News Class III members

■ **Andreas J. Bäuml** ML, Davis/USA, University of California, Davis, Department of Medical Microbiology and Immunology (Microbiology and Immunology Section)

■ **Oliver Einsle** ML, Freiburg/Germany, University of Freiburg, Institute of Biochemistry and Molecular Biology (Biochemistry and Biophysics Section)

■ **George Fu Gao** ML, Beijing/China, Chinese Academy of Sciences, Institute of Microbiology (Microbiology and Immunology Section)

■ **Johannes Herrmann** ML, Kaiserslautern/Germany, University of Kaiserslautern, Division of Cellular Biology (Biochemistry and Biophysics Section)

■ **Ursula Jakob** ML, Ann Arbor/USA, University of Michigan Medical School, Department of Molecular, Cellular & Developmental Biology and Department of Biological Chemistry (Biochemistry and Biophysics Section)

■ **Ruth Ley** ML, Tübingen/Germany, Max Planck Institute for Developmental Biology, Department of Microbiome Science (Microbiology and Immunology Section)

■ **Martina Muckenthaler** ML, Heidelberg/Germany, Heidelberg University Hospital, Center for Child and

Adolescent Medicine, Department of Pediatric Oncology, Hematology, and Immunology (Human Genetics and Molecular Medicine Section)

■ **Gang Pei** ML, Shanghai/China, Tongji University (Physiology and Pharmacology/Toxicology Section)

■ **Paola Picotti** ML, Zurich/Switzerland, Swiss Federal Institute of Technology Zurich, Institute of Molecular Systems Biology (Genetics/Molecular Biology and Cell Biology Section)

■ **Jörn Piel** ML, Zurich/Switzerland, Swiss Federal Institute of Technology Zurich, Institute of Microbiology (Microbiology and Immunology Section)

■ **Peter J. Ratcliffe** ML, Oxford/UK, University of Oxford, Target Discovery Institute, Nuffield Department of Medicine (Physiology and Pharmacology/Toxicology Section)

■ **Maya Schuldiner** ML, Rehovot/Israel, Weizmann Institute of Science, Department of Molecular Genetics (Biochemistry and Biophysics Section)

■ **Uwe Sonnewald** ML, Erlangen/Germany, Friedrich Alexander University Erlangen-Nürnberg, Department of Biology, Division of Biochemistry (Organismic and Evolutionary Biology Section)

■ **Ulrich Technau** ML, Vienna/Austria, University of Vienna, Faculty of Life Sciences, Department of Neurosciences and Developmental Biology (Organismic and Evolutionary Biology Section)

■ **Marja C. P. Timmermans** ML, Tübingen/Germany, University of Tübingen, Center for Plant Molecular Biology ZMBP (Genetics/Molecular Biology and Cell Biology Section)

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Abbreviations:

ML = Member of the Leopoldina