

# Leopoldina news

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Deutsche Akademie der Naturforscher Leopoldina – German National Academy of Sciences



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Volumes from 1670 to 1791 now digitally accessible

## **Editorial**

## Dear Members and Friends of the Leopoldina,



While time can be objectively measured, our perceptions of it are subjective and varied. Scientists work with enormous timescales stretching over millions

of years, but measure processes in nanoseconds. The topic of time is a thoroughly multifaceted one that spans a range of different disciplines. So I'm delighted that "Time in Nature and Culture" will be the focal point of our upcoming Annual Assembly on Friday 20 and Saturday 21 September. Scientific coordinator Thomas Lengauer has put together a diverse programme (see adjacent article and page 3).

The passage of time gives us cause for celebration in the form of anniversaries. This year, scientists are looking back on the passing of the German constitution 70 years ago and celebrating the achievements made possible by the principle of scientific freedom enshrined in Article 5 Paragraph 3. Our Annual Assembly will also include a tribute to our constitution by the Federal Constitutional Court judge Susanne Baer, whose lecture I am very excited to hear. Another highlight will be the evening lecture by the British-Canadian neurologist Jessica Grahn. Her research explores why we love music and what reactions are triggered in our brain by music and rhythm.

We'll also be taking time for issues within the fields of physics, technology and chemistry, philosophy and psychology, biology and medicine. A total of 18 scientists from Germany, Austria, Switzerland, the UK, Canada and the USA will be giving talks as part of the programme for this year's Annual Assembly. I would be delighted to see you there in Halle and hope you enjoy reading our newsletter in the meantime!

Jon Huch.

# "Time in Nature and Culture" is the topic of the Annual Assembly

The Leopoldina invites its members to Halle/Germany



At its Annual Assembly in September, the Leopoldina will explore both scientific and philosophical perspectives on the phenomenon of time.

Foto: Adobe Stock | Bill45

The Leopoldina is dedicating its Annual Assembly 2019 to the topic of "Time in Nature and Culture". From 20 to 21 September, scientists will come together in Halle to discuss technological developments and societal change. The scientific coordinator of the Annual Assembly 2019

is the mathematician and computer scientist Prof. Dr. Thomas Lengauer, Member of the Leopoldina Presidium (see page 3).

The talks will explore a variety of subjects including how time is understood and approached in physics, technology and chemistry, philosophy and psychology, and chronobiology

and chronomedicine, as well as developmental processes over time. Speakers will discuss the specific ways that their disciplines approach the phenomenon of time. Time is a primordial human experience, and yet it remains a mystery. It is a foundational element of our cosmos. We measure it with ever-increasing precision; we

investigate it and the processes that take place within it over a huge range of different scales. We have a subjective sense of time and are ruled by the cyclical rhythms of nature.

The lecture on Friday morning will be held by Prof. Dr. Susanne Baer, a judge

at the German Federal Constitutional Court. She will mark the 70th anniversary of Germany's constitution, known as the Basic Law, with a talk on scientific freedom and scientific responsibility. For the Friday evening lecture, the British-Canadian neuroscientist Prof. Dr. Jessica Grahn will discuss music - why do we love

music, and what reactions do sounds and rhythms trigger in our brain?

On the eve of the Annual Assembly, the Senate will address the upcoming Presidium elections. (jk, dw)

### PRIZES AND MEDALS

To mark the opening of its Annual Assembly on Friday 20 September, the Leopoldina will once again be presenting its various awards. These include the Cothenius Medal for a lifetime of superb scientific achievement, the Carus Medal for important scientific achievements, the Schleiden Medal and the Mendel Medal, as well as the Leopoldina Prize for Junior Scientists and the Georg Uschmann Award for outstanding dissertations on the history of science.

■ INFORMATION AND REGISTRATION

## Time from the perspective of physics and philosophy

In conversation with Prof. Dr. Thomas Lengauer, coordinator of the lectures at the Annual Assembly

The topic of the Leopoldina's Annual Assembly 2019 is "Time in Nature and Culture". While physicists break time down into ever-smaller units, and biologists analyse the timekeeping functions in our brains, the concept of time is still a mystery for philosophers. The mathematician and computer scientist Prof. Dr. Thomas Lengauer ML, Member of the Presidium of the National Academy of Sciences, planned the event.

How did you come up with the idea to put time at the heart of the Annual Assembly?

Thomas Lengauer: I can't take any credit for the idea. We always ask the members of the Leopoldina for suggestions, and this idea was proposed by three members of the Anatomy Section: Prof. Dr. Horst-Werner Korf ML, Prof. Dr. Elmar Peschke ML and Prof. Dr. Bernd Herrmann ML. The initial focus was specifically on chronobiology and chronomedicine. But the topic of time has fascinated me since I was a child, and I was inspired to present the Presidium with my ideas for all the things we could do on the subject. In response, I was asked to coordinate the event.

Where did your fascination with time come from?

Lengauer: It began with a formative experience when I was ten years old. I had just had an operation and was lying in the hospital feeling homesick. And suddenly I realised that this moment in time, although it wasn't a pleasant one, was entirely unique – it would never return. This feeling of travelling along a timeline, the irretrievable nature of the past and the unknowability of the future, it's simply a mystery. I've been interested in time ever since.

What would be your response if someone said to you: We're facing so many urgent challenges like digitalisation, migration, climate change, and scholars are thinking about such a timeless issue — if you'll pardon the pun — as the concept of time?

**Lengauer:** The Academy is doing plenty to face up to current issues – our statement on air pollution in April and our



Thomas Lengauer is a member of the Presidium at the Leopoldina since 2015. He became a member of the Leopoldina in 2003 and has been spokesperson for Class I from 2013 to 2015.

He has been researching in the field of bi-

oinformatics since the 1990s and also analyses viral resistance and epigenomic data. He was Director at the Max Planck Institute for Informatics in Saarbrücken for many years.

Foto: Christoph Rieken | Leopoldina

recommendation for a new reproductive medicine law in June are just two examples. But, an academy of sciences is also there to address these timeless, fundamental questions, and putting them at the centre of a conference honours the Academy and underlines its character.

Philosophers ponder the concept of time, while physicists work with attoseconds. Do the two camps have something to say to one another or are the individual programme items completely separate?

Lengauer: Well, Norman Sieroka, who's coming to the Annual Assembly, is not just a philosopher but also has a doctorate in natural sciences, and he will be drawing plenty of links to the talks about cosmology, the arrow of time and our perception of time. There's the linear model of time, of course, which we've lived by ever since we started measuring time, and there's the circular, periodic model, which was the way people felt before they had any concept of progress. Two different ways of looking at time which are both underpinned by physics and which philosophers can put in perspective.

When you're choosing speakers for the

assembly, do you start by looking through the Leopoldina's list of members?

**Lengauer:** No, not at all. We do draw on the knowledge and connections of our active members. But we also find some of our speakers by looking through literature and online.

How easy is it to attract international speakers?

**Lengauer:** When I approach people abroad and say that I'm from the Leopoldina, they do sometimes ask what that is. And that's when it really comes in useful to have members who can use their personal connections to convince people. At that point, giving a talk partly comes down to doing a favour for their friends.

What's a successful Annual Assembly for uou?

**Lengauer:** I'm pleased that there will be a lot of people who aren't long-standing Leopoldina members. We always have 50 school pupils there who are selected in advance. We'll also be publicising the event, and I hope that it attracts interest from beyond the scientific bubble.

THE INTERVIEW WAS CONDUCTED BY CHRISTOPH DROESSER

## Second conference in the series "Crossing Boundaries"

Conference on the role of science in the perception and assessment of risks

The aim of the international conference series Crossing Boundaries in Science, held by the National Academy of Sciences Leopoldina, is to act early to identify research areas whose development relies particularly heavily on interdisciplinary collaboration. The second conference in the series was held from 4 to 6 July in Potsdam under the title "The mystery of risks – How can science help reconcile perception and assessment?". The central question was the role science plays in the evaluation of societal risks and of potential paths of action.

In the run-up to the event, the Joint Committee on the Handling of Security-Relevant Research organised the workshop "Risk Governance and the Role of Science and Humanities," which prepared students from Germany, Austria, Belgium, China and the United Kingdom for the conference topics. It also familiarised them with the problem of how science handles security-relevant research risks.

One focus of the conference was the question of how risks and perceptions of risks are constructed. Participants also explored whether the precautionary principle restricts scientific progress. And scientists from disciplines such as sociology, economics, psychology, medicine, meteorology and biology discussed the positive



Participants in the Crossing Boundaries conference, which explored risks and risk perception, were joined by students from Germany, Austria, Belgium, China and the United Kingdom.

Image: Leopoldina | Markus Scholz

and negative effects that may be associated with inaccurate risk perception.

In the opening keynote speech, Prof. Dr. Ortwin Renn ML sketched out various classes of risks, which the subsequent speakers frequently returned to – natural dangers, cybersecurity and health risks. Some of the talks were dedicated to the underestimated and overestimated

risks he mentioned. The speakers argued that risks are primarily a social construct rooted more in feelings than in evidence, which is why people generally see terrorism as being more dangerous than a car accident. The role of science is to recognise these perceptions while also explaining the real risk potentials in a clear and reasonable manner. (ake)

## National academies at the World Conference of Science Journalists

At the beginning of July the Leopoldina appeared at the World Conference of Science Journalists (WCSJ) together with the National Academies of the United Kingdom and the USA – the Royal Society of London and the National Academies of Sciences, Engineering, and Medicine. The conference was an opportunity to introduce their activities and to maintain partnerships.

The event offered also some chances to learn about and discuss the latest developments in science journalism as well as new findings in various scientific disciplines. At the top of the agenda in Lausanne were the causes and effects of climate change, the preservation of biodiversity, and applications for genome editing.

Aspects of science journalists' work were also in the spotlight, such as their treatment of populism and the use of statistical data, as well as the use of virtual reality in storytelling and other format innovations.

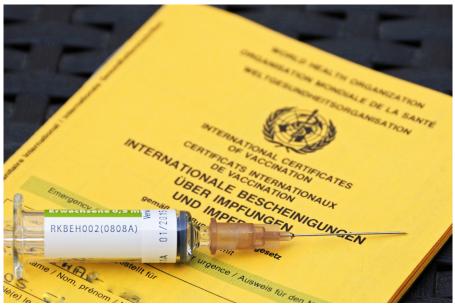
The conference is the world's largest networking event for science journalists, science communicators and scientists. It is organised by the World Federation of Science Journalists together with other institutions once every two years. Around 1,400 participants attended the 2017 conference in San Francisco/USA. (af)



Leopoldina's Press Officer Julia Klabuhn under conversation. Image: Leopoldina | Caroline Wichmann

# Increasing trust in vaccinations and building immunity together

Leopoldina and Academy of Sciences and Humanities in Hamburg publish discussion paper on potential paths of action



The German vaccination card records the vaccinations that an individual has already received as well as the dates of future vaccinations.

Image: Fotolia – Petra Beerhalter

Vaccinations are the best way to avoid contracting serious infectious diseases. Most people very much trust in the safety and effectiveness of vaccinations. Only a small minority choose not to have some or all of the vaccinations available, for a wide variety of reasons.

The National Academy of Sciences Leopoldina and the Union of the German Academies of Sciences and Humanities in Hamburg have published a discussion paper on the issue: "Gemeinsam Schutz aufbauen" (Building immunity together). The paper analyses the reasons for insufficient vaccination uptake and recommends measures which should be implemented regardless of whether or not vaccinations are made compulsory — a step which is currently under discussion.

In Germany, vaccinations are not required by law. However, lawmakers are currently pushing an attempt to make the measles vaccination compulsory for certain groups, specifically for people working in community establishments such as childcare centres. The authors of the paper highlight the need for measures which increase trust in vaccinations and lead to higher vaccination rates.

These include measures encouraging

people to have themselves vaccinated. The authors want to use research findings on the reasons for insufficient uptake to provide unbiased informational material and implement trust-building measures that support individuals' decision processes.

They also conclude that vaccination provision should be adapted to people's lifestyles and routines, for example by offering vaccinations at easily accessible locations such as workplaces and at convenient times such as the weekend. Furthermore, vaccinations should be made available at every doctor's appointment, including specialist appointments in every field. Last but not least, there is a need for improved communication around community protection to help protect children who are still too young for vaccinations and people who cannot receive them for health reasons.

Doctors and other medical professionals should also receive better training in communication so that they can actively provide straightforward vaccination advice on the basis of scientific findings – including behavioural science. (cbr/jk)

DISCUSSION PAPER ON VACCINATIONS (GERMAN ONLY)

## Support for Hungarian Academy of Sciences

In an open letter to the Hungarian prime minister Viktor Orbán, published on 4 July in the weekly German newspaper Die Zeit, the Alliance of Science Organisations in Germany protested against the restructuring of the Hungarian Academy of Sciences. The letter accuses the Hungarian government of intending "to exercise direct influence over the scientific focus of the new research network". Its signatories include Prof. Dr. Jörg Hacker ML, President of the German National Academy of Sciences Leopoldina.

This week, the Hungarian Parliament passed a law that "envisages the restructuring of the Hungarian Academy of Sciences as part of a reform, including separating the Academy from its institutes, which will be turned into a research network". The new law "ties in with other planned legislation through which the Hungarian government intends to extend its influence in the field of research," says the Alliance's letter.

Scientific institutions and umbrella organisations in Hungary and the rest of Europe have been protesting against the planned reform of the Hungarian Academy of Sciences for several months. They see the plan as a threat to scientific freedom. Back in February, nine major German scientific organisations expressed their support for the Hungarian Academy's Presidium to the country's Minister for Innovation and Technology László Palkovics.

The new letter published on 4 July is signed by the Presidents of the Alexander von Humboldt Foundation, the National Academy of Sciences Leopoldina, the German Research Foundation (DFG), the German Academic Exchange Service (DAAD), the German Rectors' Conference, the Fraunhofer Society, the Helmholtz Association, the Leibniz Association, the Max Planck Society and the Science Council. (jk)

OPEN LETTER TO HUNGARIAN PRIME MINISTER

## "Air Pollution and Health" statement submitted to the UN



The Leopoldina joined other national academies from South Africa, Brazil and the USA at the United Nations (UN) on 19 June to present the science policy statement "Air Pollution and Health" to high-ranking UN representatives as well as Permanent Representatives from Brazil, Germany and the USA. The ceremony was held at the UN headquarters in New York/USA. In light of the growing air pollution problem, the academies are calling for a new global pact to improve collaboration. They are also recommending immedi-

ate action at every level of society. This includes global emissions control and suitable monitoring of the major pollutants, especially particulate matter. The national academies emphasise the need to improve funding for efforts to find solutions and to make large-scale investments in measures to reduce air pollution. This could also help to reduce global warming and work towards the 1.5-degree climate target, they say. (jn)

Image: Thomas Kletecka

## SAPEA report: environmental risks of microplastics

Microplastics are the focus of a new report published by the European academies network SAPEA. It examines the distribution, concentration and health hazards of plastic particles in the micro and nano ranges (MNPs).

Experts from 12 European countries conclude that MNPs are already present in the air, the ground and sediments, freshwater, seas and oceans, plants, animals and human food. The particles are formed when synthetic materials and textiles decompose, as well as in industry, agriculture and fisheries. Experiments have shown that high MNP concentrations damage living organisms and the environment by causing inflammation and stress. The levels measured at many locations are much too low to cause this kind of damage, but the measurement methods currently available can only provide us with limited information. It is crucial to develop reliable methods to improve our understanding of MNP pollution and its effects.

The uncertainty involved means that there is little acute need for political measures. However, urgent action must be taken to reduce environmental pollution caused by the materials which later form MNPs. If the current levels of plastic pollution in our environment are sustained, the consequences could be widespread within a century. Based on the SAPEA report, the European Commission's Group of Chief Scientific Advisors has published the scientific opinion "Environmental and Health Risks of Microplastic Pollution," which contains recommendations for action for the Commission. (nh)

■ SAPEA ON MICROPLASTICS

## EASAC report: health risks of climate change

The current levels of green-house gas emissions are expected to lead to global warming of more than three degrees Celsius. This will have a negative impact on health. Heatwaves, flooding, droughts and air pollution are on the rise, allergens and infectious diseases are spreading, our food supply is becoming more insecure, and the risk of forced migration is growing.

The European Academies' Science Advisory Council (EASAC) published a report on this challenging situation on 4 June. The expert contributors from 12 European countries emphasise that we must make stabilising the climate and reducing greenhouse gas emissions our highest priority. The measures needed would not only have enormous health benefits but would also lead to financial savings as a result of the reduced burden on healthcare systems.

EASAC recommends an explicit, consistent and coordinated integration of human health considerations in all areas of politics. Science also has an important role to play in illustrating climate scenarios, tipping points and effective adaptation and mitigation measures, as well as in combining datasets from different disciplines.

Furthermore, improving the way that the health risks of acute and future climate change are communicated is essential. This is another area where science plays a major role, especially in defending against misinformation and polarisation, but also by supporting healthcare systems and political institutions.

(nh)

■ EASAC ON CLIMATE RISKS

# Scientists as mediators and advisors in South East Europe

Western Balkans Process - 5th Joint Science Conference



The 5th Joint Science Conference of the Western Balkans Process / Berlin Process took place at the Royal Society in London.

Image: Royal Society / Leopoldina

"Fresh Expectations for Research and Education across Europe" was the motto of the 5th Joint Science Conference of the Western Balkans Process / Berlin Process from 28 to 30 May in London/UK.

The conference was organised by the Leopoldina and the Royal Society and brought together around 60 leading representatives of national academies, universities and research organisations as well as scientists from the 16 countries participating in the Berlin Process. It focused on two key issues.

The first question was: How should science take on responsibility for society as a whole? After the keynote speeches by Baroness Catherine Ashton, a former European Union High Representative for Foreign Affairs and Security Policy, and Daya Reddy, President of the International Science Council, participants discussed the role played by the scientific community in wider society. There was a particular focus on the truth-seeking and reconciliation processes following the Balkan conflicts of the 1990s.

In addition, comprehensive advice was offered on measures which could work in parallel to the Western Balkans Research Foundation to stem the brain

drain from South East Europe. The second question on the agenda was: How can and should science communicate with the wider world? The participants explored a comparative analysis of mechanisms for providing scientific advice to political institutions and the public on an international level, taking as their starting point the panel discussion with Prof. Dr. Carole Mundell, Chief Scientific Adviser at the UK Foreign and Commonwealth Office, Prof. Dr. Giorgio Manzi of Sapienza University in Rome/Italy and Karen Davies of the Science Museum Group in London/ UK. The discussions also covered the requirements and responsibilities of science communication with regard to digitalisation and misinformation.

The joint statement on the London conference formed part of the preparations for the Western Balkans Summit which was attended by the heads of state and government in Poznań, Poland on 5 July. Poland holds the rotating presidency of the Berlin Process for 2019. The 2020 conference in Warsaw will be jointly organised by the Leopoldina and the Polish Academy of Sciences. (lb)

#### ■ WESTERN BALKANS PROCESS

## A global perspective on mental disorders

## Symposium on research and policy priorities in South Africa

Mental disorders present in many different ways and are among the most common illnesses worldwide. The World Health Organisation (WHO) estimates that around 300 million people are affected by depression, 60 million by bipolar disorders, 50 million by dementia and 21 million by schizophrenia.

It is essential to understand the exact biological processes behind mental disorders in order to provide targeted treatment in the form of medication and psychotherapy. The Academy of Science of South Africa (ASSAf) and the Leopoldina organised a symposium on this issue in Pretoria/South Africa in late May 2019 under the title "Global Mental Health in the Era of Sustainable Development: Research and Policy Priorities". The aim was to discuss the latest developments and advances in mental health research from an interdisciplinary perspective.

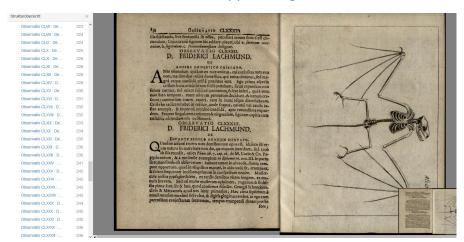
The ASSAf also used the symposium to present the first findings of its national statement on mental health and discuss them with the representatives of the Leopoldina. The scientific coordinators of the symposium were Prof. Dr. Frank Rösler ML, Hamburg, and Prof. Dr. Crick Lund, Cape Town. (jn)

## Enlightenment values in the 21st century

To mark the 25th anniversary of the European Federation of Academies of Sciences and Humanities (ALLEA), the conference "Connecting Science and Society" brought together around 50 academies from more than 40 European countries in Bern/ Switzerland. The Global Young Academy (GYA) took part in the panel "Re-enlightenment: Truth, reason and science in a global world". The GYA Co-Chairs Dr. Connie Nshemereirwe (Uganda) and Prof. Dr. Koen Vermeir (France), along with Executive Committee Member Dr. Michael Saliba (Switzerland), also discussed the value of Enlightenment ideas in a society shaped by digital transformation.

## All "Miscellanea" from 1670 to 1791 now accessible

### German Research Foundation supports digitalisation



Viewing the digitalised volumes of Miscellanea in the catalogue of the Thuringian University and State Library.

The "Miscellanea Curiosa Medico-Physica Academiae Naturae Curiosorum" is one of the most valuable publications in the Leopoldina's libraries. The archived copies of the journal and subsequent publications from the years 1670 to 1791 have now been made digitally accessible. The 16-month project was supported by the German Research Foundation (DFG).

The Miscellanea was first issued by the German Academy of Sciences Leopoldina in 1670 and is still published today. This makes it the oldest journal in the world dedicated to medicine and natural sciences, although its name has changed several times and it is now known as Nova Acta Leopoldina. From the very start it served the Academy's ultimate goal of bringing together the medical and scientific findings of the age. Today, the archives are a unique source shedding light on the histo-

ry of the natural sciences since the late 17th century, a time when the foundations of our understanding of natural sciences and medicine were being laid.

When the Academy was created in 1652, the founding fathers planned an encyclopaedia of remedies. This was ul-

timately not feasible, so, from 1670, short encyclopaedic articles known as Observationes were published in the newly founded journal.

The DFG project has closed the gaps in the availability of high-quality digital copies of the journal. It also made the archives fully accessible in accordance with current technical and library standards. They are now listed down to individual articles in cross-regional reference systems.

A total of 88 volumes with over 55,000 pages were digitalised and around 17,000 structural elements were made formally accessible. The digitalisation process was based on the standards of the cross-regional German organisation Alte Drucke ("Old Manuscripts"). This means that the articles were made accessible together with their title, author, page numbers within the volume, and any notable fea-

tures such as illustrations or printing errors.

Also included were structural elements such as title pages, dedications, tables of contents, registers and independent articles contained within the appendix to each volume.

(dyw, pm)

## European Academies Research Initiative

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The European Academies Research Initiative was founded on 6 June at the Leopoldina Centre for Science Studies. It is the first association for science studies and history of science which brings together multiple European academies to carry out joint research on this topic. Seven national academies are taking part: the British Royal Society, the French Académie des Sciences, the Royal Swedish Academy of Sciences, the Czech Academy of Sciences, the Austrian Academy of Sciences, the Italian Accademia Nazionale dei Lincei, and the Leopoldina.

They will carry out comparative research on a European and global level within the field of "Academies and Poli-



Claude Debru, Member of the Leopoldina and Académie des Sciences, presents the French academy's proposals.

Image: Markus Scholz | Leopoldina

tics". The plan is to spend the next eight to ten years investigating topics such as the past and present relationship between the academies and politics, the role and functioning of science diplomacy, or the relationship between academies in East and West during the Cold War.

"This association will promote lasting international understanding as well as close, productive collaboration between the academies," explained the Leopoldina's Vice President Prof. Dr. Gunnar Berg ML in his introductory address. The collaboration will allow the Leopoldina to extend its influence to the field of joint international research. The planned series of workshops will be launched with a conference organised by the Italian National Academy in 2020. (rgo)

### DIGITAL ACCESS...

... to the Miscellanea archives from 1690 to 1791 has been made possible in cooperation with the Thuringian University and State Library (ThULB). Anyone who is interested can view the archives via the portal. Single-sided and double-sided views as well as an overview of all pages and structures are available, and individual pages or entire documents can be copied in PDF format.

■ MISCELLANEA DIGITAL

## People

#### **Deceased members**

■ Otto-Erich Lund ML 19 August 1925 – 4 May 2019 Ophthalmology, Otorhinolaryngology, Stomatology

From 1968 to 1993, Otto-Erich Lund was Professor of Ophthalmology and Head of the Department of Ophthalmology at the Ludwig Maximilian University of Munich (LMU Munich). He had a profound influence on developments in ophthalmology in Germany over several decades. Among other things, Lund worked on comparative investigations of vascular changes in the brain, organ systems and eyes, as well as experimental studies on the effect of different laser beams on the eye. He was a founding member of the German laser medicine association DGLM, which was established in 1981. During his time as Head of the Department of Ophthalmology at LMU Munich, he greatly influenced the development and expansion of the department. He also sponsored training for African ophthalmologists at the Department of Ophthalmology at the University of Nairobi/Kenya from 1978 onwards. He was made a member of the Bavarian Academy of Sciences and Humanities in 1975, served as President of the DOG, the scientific association of ophthalmology in Germany, in 1981-2, and was an honorary president of the German society for ophthalmic surgery for over 25 years. He was also decorated by the German Red Cross. He was elected a member of the Leopoldina in 1984.

#### **New Class II members**

**Asifa Akhtar ML**, Freiburg, Max Planck Institute of Immunobiology and Epigenetics (Biochemistry and Biophysics Section)

**Christian Fankhauser ML**, Lausanne, Switzerland, University of Lausanne, Center for Integrative Genomics (Organismic and Evolutionary Biology Section)

Mathias Heikenwälder ML, Heidelberg, German Cancer Research Center, Chronic Inflammation and Cancer (Human Genetics and Molecular Medicine Section)

**Ludger Johannes ML**, Paris, France, Curie Institute, Research Centre, Cellular and Chemical Biology (Genetics/Molecular Biology and Cell Biology Section)

**Rohini Kuner ML**, Heidelberg, Heidelberg University, Institute of Pharmacology (Physiology and Pharmacology/Toxicology Section)

**Kaspar Locher ML**, Zurich, Switzerland, Swiss Federal Institute of Technology Zurich, Institute of Molecular Biology and Biophysics, Department of Biology (Biochemistry and Biophysics Section)

**Nikolaus Rajewsky ML**, Berlin, Max Delbrück Centre for Molecular Medicine (Biochemistry and Biophysics Section)

**Stefan Raunser ML**, Dortmund, Max Planck Institute of Molecular Physiology, Structural Biochemistry Department (Biochemistry and Biophysics Section)

**Christian Rosenmund ML**, Berlin, Charité – University Medicine Berlin, Institute for Neurophysiology (Physiology and Pharmacology/Toxicology Section)

Constance Scharff ML, Berlin, Freie Universität Berlin, Department of Biology, Chemistry, and Pharmacy, Institute of Biology – Animal Behavior Department (Organismic and Evolutionary Biology Section)

**Melina Schuh ML**, Göttingen, Max Planck Institute for Biophysical Chemistry (Genetics/Molecular Biology and Cell Biology Section)

**Brenda A. Schulman ML**, Martinsried, Max Planck Institute of Biochemistry, Molecular Machines and Signaling (Biochemistry and Biophysics Section)

**Thomas D. Seeley ML**, Ithaca, USA, Cornell University, Department of Neurobiology and Behavior (Organismic and Evolutionary Biology Section)

**Feng Shao ML**, Beijing, China, National Institute of Biological Sciences (Microbiology and Immunology Section)

Michael Speicher ML, Graz, Austria, Medical University of Graz, Institute of Human Genetics, Diagnostic and Research Center for Molecular BioMedicine (Human Genetics and Molecular Medicine Section)

## **Leopoldina Fellowship Programme**

#### **New fellows**

Dr. Immo Burkhardt from the Kekulé Institute of Organic Chemistry and Biochemistry at the University of Bonn is transferring to the Scripps Institution of Oceanography at the University of California, San Diego/USA, for 24 months to work with Prof. Dr. Bradley S. Moore.

Dr. Thomas Hainmüller from the Institute for Physiology I at the University of Freiburg will be carrying out his project over 24 months at the Neuroscience Institute at the medical centre NYU Langone Health, New York/USA, working with Prof. Dr. György Buzsáki.

Dr. Paul Vogel, previously of the Interfaculty Institute of Biochemistry at the University of Tübingen, is spending 24 months researching at the Department of Genetics at Stanford University in Palo Alto/USA, hosted by Prof. Dr. Jin Billy Li.

Dr. Christian Roßner has been awarded a four-month Returning Fellow Scholarship. He will spend this time working at the Institute of Physical Chemistry and Polymer Physics at the Leibniz Institute of Polymer Research Dresden and will be supported by Prof. Dr. Andreas Fery.



## **Imprint**

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#### Abbreviations:

ML = Member of the Leopoldina