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A conversation with Urban Wiesing and Stefan Pfister

International conference

“Research with vulnerable people”



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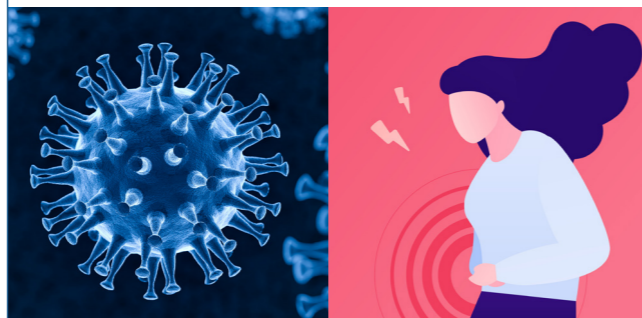
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Editorial

Dear Members and Friends of Leopoldina,

The year 2024 promises to be a diverse one in terms of events at the Leopoldina. Several collaborations with international partners will enrich our calendar – I would like to draw your particular attention to three that illustrate our contribution to strong international ties in research. On 20 March, the Leopoldina and the Norwegian Academy of Sciences and Humanities are jointly organising the Human Rights Committee’s symposium “Human Rights and Academic Freedom in Europe” in Berlin/Germany (page 11). In May, the Leopoldina is cooperating with the World Medical Association (WMA) and the American Medical Association (page 4) with a symposium on research on vulnerable people. And in October, the Leopoldina and the Chinese Academy of Sciences (CAS) are organising the conference “Science for Future: On the Path to Carbon Neutrality”.

With the revelation in January that right-wing politicians and activists had met to discuss “re-migration plans”, it became abundantly clear that the essential elements of academic freedom, internationality, and diversity, could be threatened in future. The Academy has experienced two totalitarian regimes in its history. A responsibility to speak up for human dignity, freedom and democracy develops out of these experiences alone. This year, we will discuss current societal developments at numerous events. In June, the Europe Debate on populism will take place in Halle (Saale)/Germany with the Halle Institute for Economic Research. The interplay between societal crises and science is the topic of the conference “Science and Democracy in Political Crises, 1900–2024”. In cooperation with the German Historical Institute, the conference will be organised in Washington, D.C./USA in September.

Research needs diversity – and this thrives with funding and support. At this point I would like to ask you, dear Members, to nominate young scientists for the prize “Zukunftswissen”, successor of the Early Career Award, which the Leopoldina and the Commerzbank-Stiftung will award for the first time this year. You can find more details on page 11.

We hope you enjoy this issue!



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

Image: David Ausserhofer | Leopoldina

“The concept of vulnerability can turn from a privilege into a problem”

International conference on the framework conditions for clinical studies on vulnerable people

The Leopoldina Working Group (WG) “Framework conditions for clinical studies on vulnerable people” started their work in summer 2023. On 14–15 May 2024 a Leopoldina conference in cooperation with the German Medical Association and the World Medical Discussion will take place on this topic in Munich/Germany. A discussion with the Leopoldina members and spokespersons of the WG, paediatrician Stefan Pfister and medical ethicist Urban Wiesing.

Which groups of people are particularly vulnerable, Mr Wiesing?

Urban Wiesing: The question takes us directly to the heart of the problem: Are we talking about people that are much more likely to be treated unjustly, about higher damage potential from certain treatments, or is it more a question of being able to consent? By some attempted definitions the list of vulnerable groups risks becoming extremely long. In an exaggerated sense, we could say that only white, well-off, cis men in their prime should be excluded. Yet this does not get us any further. So we have to be more specific and ask what characterises certain groups and which different measures can protect them. For example, are pregnant people fundamentally vulnerable or only in a certain regard?

Mr Pfister, you treat children and adolescents with cancer. Are they all equally vulnerable?

Stefan Pfister: Here too, we have to differentiate. From the age of 12 and up, adolescents are considered partially capable of consent, patient information is already today adjusted to the age of children and is available for various age groups. The concept of vulnerability should provide protection in a positive sense. Should it, however, mean less



Stefan Pfister ML

has been a Member of the Leopoldina since 2020 and is one of the two spokespersons of the Working Group “Framework conditions for clinical studies on vulnerable people”. He is Head of the Division of Pediatric Neurooncology at the German Cancer Research Center (DKFZ) in Heidelberg/Germany and Director of the Hopp Children’s Cancer Center Heidelberg (KiTZ). Image: Jung | DKFZ

or even no access to innovative treatments, it can also be a disadvantage. The concept of vulnerability then turns from a privilege into a problem, especially for children and adolescents with life-threatening or even fatal diseases.

While excellent studies now show that most medicines for children, calculated based on body surface size, is metabolised in the same way as in adults, we are still seeing long latency periods due to regulations aimed at actually protecting these groups when it comes to using medicine. Studies indicate around six years on average. This is absolutely unacceptable.

Wiesing: We already differentiate in



Urban Wiesing ML

has been a Member of the Leopoldina since 2011 and has been one of the two spokespersons of the Working Group “Framework conditions for clinical studies on vulnerable people” since 2023. The medical ethicist and historian is Director of the Institute for Ethics and History of Medicine at the University of Tübingen/Germany.

Image: Universitätsklinikum Tübingen

terms of ability to consent. From a certain stage of development adolescents have a right to object to participation in research. Adolescents with chronic illnesses often understand their illness better than adults. If they can estimate the “scope and significance” of the research, they ought to give their “informed consent” to participating in a study.

The World Medical Association’s Declaration of Helsinki also refers to the risks and burdens related to participation in clinical studies. The aim of your working group is to specify what is actually meant by the stipulated “minimum risk” and “minimum burden” in a clini-

cal study on vulnerable people. Are there already ideas for how to achieve this?

Pfister: We weigh up risks and benefits every day in our profession. In the declaration, however, the severity of the illness has to date not been considered at all. Differentiating between light illnesses and diseases that could lead to a child’s death if left untreated is extremely important in our view.

Wiesing: We make this differentiation in terms of treatments, so this should also be the case in research.

Pfister: Especially since almost all child oncology treatments take place as part of clinical studies. Today, 70 to 80 percent of children and adolescents with cancer are initially treated as part of studies. This means that a strict differentiation between therapy and research is not possible.

We have the impression that the “subsidiarity principle”, according to which children and adolescents are only able to access new treatments after trials on enough adults, is interpreted differently in different countries and even within the European Union (EU).

What about adults not capable of consent? They also count as a vulnerable group.

Wiesing: Yes, and that is why, following the principle of subsidiarity, research on new treatments should first take place on non-vulnerable people. But what does this actually mean? Practically, it can lead to delays in the availability of new treatments, so we should then think about how we can reduce this time period in a way that is ethically acceptable.

When it comes to adults not capable of consent, group benefits of research is excluded as a criterion for permissibility, for example in studies on people with dementia. This is not the case for adolescents. However it is possible that some of them, in their healthier days, would have liked to help other patients by participating in research.

Pfister: From paediatric research we know that 95 percent of families hope that the studies their child participates in also help other children, and this is very often the case when it is assumed that the currently affected child only has a small chance of benefiting from the study in question.

Wiesing: We feel it is important to really look at the practical effects of differing regulations. But we are still at the beginning of this discussion.

What are you expecting to take away

from the international conference “Research with vulnerable people” in May?

Pfister: We would like to better understand how countries can differently interpret the universally applicable Declaration of Helsinki and the EU regulations, including the Clinical Trial Regulation and the Data Protection Ordinance. In paediatrics especially, we see again and again that studies considered unproblematic in countries such as France, Italy, the Netherlands, United Kingdom and Scandinavia, meet with much more difficulty in Germany and need more time to receive approval from the authorities. What adjustments can we make here? We need to look at how these regulations are interpreted and implemented.

Wiesing: With the conference we’re aiming to bring together the work of various stakeholders. We consider the Leopoldina’s task to be the development of recommendations based on good data and a differentiated perspective.

■ THE INTERVIEW WAS CONDUCTED BY
ADELHEID MÜLLER-LISSNER

► Conference “Research with vulnerable people”

SYMPOSIUM ON NEWEST INSIGHTS INTO CAR-T CELL THERAPY

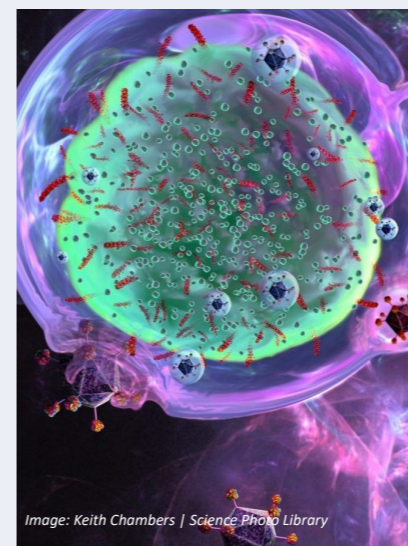


Image: Keith Chambers | Science Photo Library

Experts in the area of CAR-T cell therapy are meeting on 8 to 9 April for an international symposium at the Leopoldina. The focus will be on the newest insights and implications of CAR-based treatments (chimeric antigen receptors) for uses other than the usual treatment of tumours.

For a long time, CAR-T cells were considered cancer treatment’s last hope. The T-cells of people with cancer are changed in such a way that the tumour cells can be specifically identified and eliminated. These cells are specific immune cells that are taken from the patient’s blood. They are then genetically modified in a laboratory so that they can target and switch off the immune cells (B-cells) attacking the organs. The modified T-cells are then returned to the body via infusion.

Nowadays the therapy is also used for auto-immune illnesses, infectious diseases, and most recently for illnesses such as cardiac fibrosis and cellular senescence. The presentation and discussion of current treatment approaches will be the focus of the symposium coordinated by the immunologist Georg Schett ML and the haematologist Andreas Mackensen. ■ STB

► Discussion “CAR-T cell therapy for non-malignant diseases”

“Recourse to empirical results facilitates effective policymaking”

Series “Policy advice in the field of tension between science, politics and the media” (Part 6)

Policy advice based on empirical evidence offers grounded and objective foundations for decision-making. This is essential if we are to strengthen the trust in political decision-making processes, especially in these times of increasing reservations about science and scientists. Making recourse to empirical evidence facilitates effective policymaking that contributes to effective solutions for complex societal problems.

BY MONIKA SCHNITZER ML*

Under the Leopoldina umbrella, the Initiative for Evidence-based Policymaking offers a platform for dialogue and networking between policymakers and science. Its goal is to facilitate an informed political discourse that translates into transparent and fact-based decision processes and overcomes institutional obstacles. It focuses on the instruments and processes of science transfer within the German political administration system and parliament. To learn from international experiences, two roundtable events took place which are documented in the “Leopoldina Forum” series.

An illustrative example for the application of evidence-based approaches is the Office for Impact Analysis (OIA) in Australia. There, the Justice Impact Assessment (JIA) is key, a process in which the expected benefits of a law change are weighed against the potential costs and negative effects. Scientific evidence plays a central role in JIA. The debate around a ban on e-cigarettes in Australia provides a practical example. The JIA delivered a decisive foundation that led to a compromise: While e-cigarettes were not banned, they have been prescription-only since 2021.

In the United Kingdom, the Evaluation Task Force (ETF) was founded in

2020, which is under the authority of the HM Treasury and the Cabinet Office. Its objective is to increase the efficiency of public spending by means of evaluations. It serves as a consulting and coordinating authority that supports various ministries in their evaluation tasks and ensures their quality. The ETF offers intergovernmental consultation teams and resources in order to support ministries with their evaluation plans. It also helps the government to assess the quality of evaluations. Furthermore, the Task Force runs an information platform that provides a guideline, training courses, and evaluation results. By 2025, every new, major regulation programme should include an evaluation plan.

Independent, excellent research is the basic requirement for evidence-based policymaking. Such research requires objective status descriptions formulated using transparently collected data. Transparency and objectivity are crucial for the credibility of an evidence-based approach and play an important role in addressing anti-scientific tendencies.

A survey of economists conducted by the Verein für Socialpolitik (Ger-

man Economic Society) shows that, in an international comparison, access to research data in Germany is outdated. During the coronavirus pandemic it became clear that policies should often be based on international rather than solely domestic evidence. The German Council of Economic Experts addressed these grievances in its most recent annual expert report. In addition to increasing staff numbers and financial means, the statistical offices of the German federal states also regard output-focused approach and a deepening of the legal research commission of the Federal Statistical Office of Germany (Destatis) as necessary in order to improve the data base for evidence-based policies.

* Monika Schnitzer ML, economist and Chair of the German Council of Economic Experts, and Regina T. Riphahn ML, economist and Leopoldina Vice President, lead the Initiative for Evidence-based Policymaking.

▶ Leopoldina Forum “Roundtables Evidence-based policymaking”

“Transparency and objectivity are crucial for the credibility of an evidence-based approach and play an important role in addressing anti-scientific tendencies.”

Monika Schnitzer
Chair of the German Council
of Economic Experts

Image: German Council of Economic Experts



“Quantum phenomena are similar to experiences in normal life”

Leopoldina Member and physicist Gerd Leuchs spoke at the certificate ceremony for Class I

Gerd Leuchs has been a member of the Leopoldina since 2005 and has been researching at the Max Planck Institute for the Science of Light in Erlangen/Germany since 2009. In February, the physicist held the public Leopoldina Class I lecture on “Quantum science and quantum technologies”. In conversation, he described how he teaches quantum physics and what connects him to the Leopoldina.

The physical laws of the quantum world often contradict our everyday experience. How will you explain this world to your audience?

Gerd Leuchs: In many ways, quantum phenomena are similar to experiences in normal life. For example, it has a lot to do with the superposition of waves of different frequencies, which we also experience with water waves, for example. But in the quantum world, a measurement only results in one of these frequencies. This used to be called the “collapse of the wave function”, but today it is more commonly referred to as a projection.

Many listeners will still have problems understanding this.

Leuchs: That’s why I’m going to use a tongue-in-cheek comparison that might help a little: you know those pictures where the brain can switch back and forth – sometimes you see two faces, then a vase. The picture contains both motifs, but when I look at it, I reduce it to one of the two.

What gives many lay people the most headaches is the entanglement of two particles – even if they are far apart, the measurement of one of the particles influences the other.

Leuchs: Again, I can only answer with a comparison: If I know that you always wear one red and one blue sock, and I



Gerd Leuchs.

Image: Stephan Spangenberg

see one of them I can predict the other. However, quantum physics goes further, it’s difficult to understand in detail – but ultimately, we don’t understand gravity either. Why do two distant masses attract each other? It’s just a concept more familiar to us.

Quantum phenomena will increasingly be used in practical applications. Can you give some examples?

Leuchs: There is a lot of talk about quantum computers, but so far, they only exist as prototypes with limited capabilities. The most progress has been made with gravitational waves – the laser detectors for these only achieve their maximum, almost unimaginable accuracy on a quantum scale and have already produced a number of fantastic results.

You are doing research into quantum communication. Can you explain what this is about?

Leuchs: Quantum communication makes the encryption of data more secure. When two people communicate with encrypted messages, they must somehow ensure that they have the same key. Today, most methods are based on the fact

that it is difficult to break down large numbers into their factors. But if I send quantum signals back and forth, I can immediately determine whether someone has intercepted the signal – because in quantum physics you can’t make a measurement without changing the system.

But to do this, the receiver must receive the identical photons that the sender sent. Is this possible via the fibre optic networks that are commonly used today?

Leuchs: Yes, if the distance is not too great. Otherwise, you need “quantum repeaters” to amplify the signals, and these are not yet available in the fibre optic network. Or you can use a direct satellite link.

You have been a Member of the Leopoldina for almost 20 years. What memories do you have of the Academy?

Leuchs: My memories go back even further. My doctoral supervisor, Herbert Walther, became a Leopoldina member in the mid-1980s. The Academy, then still in the GDR, was one of the few institutions open to both East and West Germans, thus linking scientists across the Iron Curtain.

What does the Leopoldina membership mean to you?

Leuchs: If I had founded a company, I could measure my success in terms of profit. In science you don’t create commercial products, so success is measured by citations or prizes. And the Leopoldina membership is a great honour. What I particularly appreciate is that you meet other members who are established scientists from very different disciplines and look beyond the boundaries of your own discipline.

■ THE INTERVIEW WAS CONDUCTED BY CHRISTOPH DROESSER

Research and Innovation Summit at the Hannover Messe

Relocation for its anniversary: Research summit has a new name and location

For ten years now, the research summit has been a major summit for stakeholders from science, business, and politics. From the beginning, the joint mission of the partner organisations – the German National Academy of Sciences Leopoldina, the Stifterverband, the Commission of Experts for Research and Innovation, and the Volkswagen Foundation – has been to create more visibility across Europe for Germany as a centre for innovation. This means positioning Germany as a location with a research and innovation system that combines economic value creation, political decision-making, and regulation processes and involves wider civil society.

BY GEORG SCHÜTTE*

The research summit is where first-rate networks meet to discuss urgent topics, to point out unused opportunities, and to work on constructive recommendations in dialogue with national and international experts. This has been our concern for ten years – and it will remain so in the future.

We have partially reinvented the summit in its anniversary year. With a new title “Summit for Research and Innovation”, in 2024 it leaves its usual event location in the political centre of Berlin/Germany and will be a guest in Hanover/Germany at the world’s biggest industrial trade fair. “Innovations in Europe – catalysts, competencies, and cooperation using the example of AI” is this year’s discussion topic.

Certainly no one needs to be convinced that innovative and disruptive artificial intelligence (AI) is relevant. AI applications have become mainstream since ChatGPT. Yet ChatGPT is not a German creation, and it’s not even a European one. ChatGPT is the product of an American company, Open AI, which

has only been focusing on AI since 2015.

What is, however, Europe’s and Germany’s role in the most dynamic transformation of our time? Could European AI ecosystems be those in which futures are developed in a technologically and societally sustainable way? And how do current developments affect the European and German research and innovation systems? These are the aspects we need to address.

Holding the summit as part of the Hannover Messe increases the likelihood of our discussions having even more impact. After all, the Messe brings together technological, scientific and entrepreneurial knowledge and the most relevant products used to transfer ideas and technology between the fields of science and business. We want to build on this treasure trove of knowledge together.

From the perspective of a large research supporter such as the Volkswagen Foundation, when science, policymaking, and business engages in dialogue it is important to look closely at what frameworks this transfer needs in order to be productive and successful. For science, this means not restricting the freedom

“Funding with the courage to take risks, and an innovation policy that establishes a culture of implementation in research and industry, are absolute musts.”

Georg Schütte
Secretary General
of the Volkswagen Foundation
Image: Philip Bartz | VolkswagenStiftung



to independently develop basic research and acquire inter- and transdisciplinary knowledge, while also structuring adaptability much more efficiently than is presently the case. Regional, national and Europe-wide agreement on funding instruments is a decisive factor in this regard.

Funding with the courage to take risks, and an innovation policy that establishes a culture of implementation, a culture of “movers and shakers” in research and industry, are absolute musts. The “Research and Innovation Summit” on 22 April 2024 in Hanover could provide significant momentum for these developments.

* Dr Georg Schütte is an Honorary Member of the Leopoldina Senate and Secretary General of the Volkswagen Foundation. From 2013 to 2018 he was a member of its advisory board and from 2009 to 2019 State Secretary at the Federal Ministry of Education and Research.

▶ Research and Innovation Summit 2024 (German only)

FORMER PRESIDENT VOLKER TER MEULEN CELEBRATES 90TH BIRTHDAY



The virologist and physician Volker ter Meulen ML was the 25th President of the Leopoldina from 2003 to 2010. On 17 December 2023 he celebrated his 90th birthday. A member of the academy since 1984, he now plays a consulting role in its Presidium. In his time as President, he intensified the Leopoldina’s work in international committees and drove the change to a working academy that independently advises policymakers and society on a scientific basis. This significantly contributed to the Leopoldina being named the German National Academy of Sciences in 2008.

Volker ter Meulen is also a leading researcher on viral infections of the central nervous system (CNS). His studies were the first to deliver experimental evidence that viruses can cause auto-immune reactions in the CNS. He was awarded the Great Cross of Merit of the Federal Republic of Germany in 2008 and the Order of Merit of the State of Saxony-Anhalt/Germany in 2018.

Images: David Ausserhofer, Markus Scholz | Leopoldina, Ines Berger | Staatskanzlei

Alliance supports Ukrainian science

New partnership between Germany and Ukraine in education, research and development

It has now been two years since the Russian Federation began its war of aggression against Ukraine, violating international law. Millions of Ukrainians are affected by the attacks, and dozens of scientific, educational, and cultural institutions have been destroyed or damaged. And yet Ukraine manages to maintain the operation of schools, universities, and research institutes, and help from partnerships abroad contributes to this.

Immediately after the war began, the Alliance of Science Organisations in Germany called the Coordination Circle Ukraine into being, which was further developed under the supervision of the Leopoldina.

In March and October 2023, foun-

dations, national and federal state ministries as well as stakeholders from the Ukrainian academic diaspora took part in a large-scale event and discussed initial considerations for a medium- and long-term Ukraine strategy. They also prepared the 30th Meeting of the Commission on Science and Technology Cooperation (STC).

The STC Commission met on 9 and 10 November 2023 under the guidance of the Federal Minister for Education and Research Bettina Stark-Watzinger and her Ukrainian counterpart Oksen Lisovyi. Leopoldina President Gerald Haug ML gave the opening keynote speech. He paid respect to the resolve and resilience of the Ukrainian scientific community and assured them of the solidarity of their German counterparts. De-

spite the ongoing war, the celebrations of the German-Ukrainian STC agreement’s 30th anniversary reflected a remarkable optimism for the post-war period. The event was rounded off by a reception at the WissenschaftsForum Berlin/Germany with a speech from the president of the Alexander von Humboldt Foundation and Vice-President of the Leopoldina Robert Schlögl ML.

At the beginning of 2024, the German National Academy of Sciences Leopoldina passed on the leadership of the Alliance of Scientific Organisations in Germany to the Max Planck Society.

■ LB, AL

▶ Alliance of Science Organisations in Germany

NEW CLASS IV MEMBERS – HUMANITIES, SOCIAL AND BEHAVIOURAL SCIENCES



The members elected to Class IV – Humanities, Social and Behavioural Sciences in 2021 and 2022 received their certificates last November. In the photo: Leopoldina President Gerald Haug ML (centre) with the new members (LTR) Xuetao Li ML, Michèle Tertilt ML, Stephan Lewandowsky ML, Thomas Metzinger ML, Marietta Auer ML, Julia Fischer ML, Nicola Fuchs-Schündeln ML and Axel Ockenfels ML. Image: Markus Scholz | Leopoldina

Virtual panels on global health and endometriosis

International discussions opened up for further topics / Cooperation with partner academies

As part of the “Leopoldina International Virtual Panel” (LIVP), leading international experts regularly discuss the latest research findings. So far, this English-speaking event series, often carried out in cooperation with international partner academies of the Leopoldina, has addressed topics around the coronavirus pandemic. Now the series is being opened up for further topics.

The coronavirus pandemic highlighted the necessity of scientific cooperation and interdisciplinary approaches to tackling infectious diseases. Global health

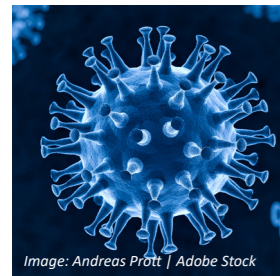


Image: Andreas Prött | Adobe Stock

approaches are the most efficient way to stem pandemics. The “Global Health Approach for Infectious Diseases” conference report illustrates what such an approach might look like. The report summarises the results of the “Infectious Diseases beyond COVID-19” workshop which was organised jointly

by the Leopoldina and the academies of South Africa, Senegal and Ethiopia in May 2023.

The authors explicitly call for the promotion of global health research, for example by means of strengthened societal cooperation in terms of data collection and transfer and fair access to vaccines. On 23 April 2024 the infection biologist Stefan Kaufmann ML and the epidemiologist Quarraisha Abdoool Karim, who organised the conference, will present the conference report in the “Global Health Approach for Infectious Diseases” LIVP. They will discuss how this approach might be applied with health policy, civil society and economic stakeholders.

The second LIVP, on 7 March 2024, will focus on “Chasing the Chameleon: Advances in the Diagnosis and Treatment of Endometriosis”. Worldwide, an estimated 10 percent of women of reproductive age are affected by the chronic disease, in which endometrium-like tissue grows outside of the uterus. This leads to symptoms such as severe pain, especially during menstruation, or infertility.

Despite its prevalence, endometri-

osis is often incorrectly diagnosed, and the cause of the disease is still largely unknown. The LIVP will focus on the latest research findings on the causes and symptoms of the disease. Leading international experts, including the physician and director of the Endometriosis Centre at the Universitätsklinikum Erlangen/Germany, Matthias Beckmann ML, will participate in the panel. They will discuss new treatment approaches and strategies for supporting patients from an evidence-based perspective. ■ CHW, TP



Image: tasty_cat | Adobe Stock

International Virtual Panels

- ▶ Global Health Approach for Infectious Diseases
- ▶ Advances in the Diagnosis and Treatment of Endometriosis

Symposium

Human Rights and Academic Freedom

For a long time, the suppression of academic freedom seemed to be a topic more likely to affect far-off countries. Yet restrictions on and risks to academic freedom are now also increasingly visible in Germany. These current developments and their connection to human rights are at the centre of the 10th symposium series “Human Rights and Science” on 20 and 21 March 2024 in Berlin/Germany.

The event is being organised by the human rights committees of both the Leopoldina and the Norwegian Academy of Science and Letters (DNVA). Renowned speakers from Germany and Norway will shed light on the topic from various perspectives during the public part of the symposium. The podium discussion “Who owns academia?” will address the relationship between political power and academic freedom.

In the invitation-only part of the event, representatives of European academies will report on their “Human Rights and Science” activities. The symposium will be coordinated by experts Hans Petter Graver, Chair of the Human Rights Committee (HRC) of the DNVA, and Jutta Gärtner ML, Chair of the Leopoldina’s HRC. ■ TP

▶ 10th Symposium “Human Rights and Science”

ZukunftsWissen award

Early Career Award has a new form

As of 2024, the new “ZukunftsWissen – The Leopoldina and Commerzbank-Stiftung Early Career Award” will be presented annually to junior scientists who have made extraordinary contributions to the topic of each Leopoldina Annual Assembly and who have addressed future challenges in their research.

The relevance to the Annual Assembly – this year on the “Origin and Start of Life” – can be broad and cover all disciplines represented by the Leopoldina. Interdisciplinary research is particularly welcome. Endowed with 50,000 euros, the award will be presented at the Annual Assembly, where the award winner is expected to give a speech. Members of the Leopoldina can suggest people who completed their doctorate ten years ago at the most. Nominations in German or English are possible up until 20 March. The award replaces the “Early Career Award”, for which the Commerzbank-Stiftung provided 30,000 euros of prize money to the Leopoldina from 2010 to 2022. ■ RED

▶ “ZukunftsWissen” award

Video documentation

Symposium “Energy Solutions”

In October 2023, the science academies of the USA, Israel and Germany held a trilateral symposium on the transformation of the energy sector in Germany. Around 30 experts discussed the state of research in science and industry, energy transition strategy, and the market-oriented scaling of innovations for a climate-neutral energy sector.

The presentations and discussions, including with Jürgen Janek ML (University of Gießen/Germany), Doron Aurbach (Bar-Ilan University/Israel) and Valerie Karplus (Carnegie Mellon University/USA) are now available. ■ LB

▶ Video documentation “Energy Solutions”

NEW CLASS I MEMBERS – MATHEMATICS, NATURAL SCIENCES AND ENGINEERING



In February, the members elected to Class I – Mathematics, Natural Sciences and Engineering in 2022 and 2023 received their certificates. In the image: Minister President of Saxony-Anhalt/Germany Reiner Haseloff and Leopoldina President Gerald Haug ML (both centre) with the new members (from left to right): Guy Bertrand ML, Jan Esper ML, Anna Wienhard ML, Daniel Rückert ML, Martina Angela Sasse ML, Ángel Rubio ML, Alain-Sol Sznitman ML, Thomas Schmitz-Rode ML, Anke Weidenkaff ML, Matthias Wessling ML, Annette Zippelius ML, Gernot Heiser ML and Rainer Blatt ML.

Image: Markus Scholz | Leopoldina

Personalia

Awards and Honours

■ **Michael Bamberg** ML, Member of the Radiology Section, was awarded the Albert Schweitzer Medal by the Medical Association of the State of Baden-Württemberg (Stuttgart/Germany).

■ **Bertram Brenig** ML, Member of the Agricultural and Nutritional Sciences Section, was elected Vice-President of the Göttingen Academy of Sciences and Humanities in Lower Saxony/Germany.

■ **Johannes Buchner** ML, Member of the Biochemistry and Biophysics Section, was awarded the Otto Warburg Medal by the German Society for Biochemistry and Molecular Biology (GBM) (Frankfurt am Main/Germany).

■ **Reinhard Büttner** ML, Member of the Pathology and Forensic Medicine Section, was awarded the 2023 German Cancer Aid Prize by the German Cancer Aid (Bonn/Germany).

■ **Donald Bruce Dingwell** ML, Member of the Earth Sciences Section, was elected as Foreign Academician to the Chinese Academy of Sciences (Beijing/China).

■ **Christian Dustmann** ML, Member of the Economics and Empirical Social Sciences Section, was awarded the 2023 Reimar Lüster Prize by the Alexander von Humboldt Foundation (Bonn/Germany) and the Fritz Thyssen Foundation (Cologne/Germany).

■ **Tobias J. Erb** ML, Member of the Microbiology and Immunology Section, was presented with the 2024 Gottfried Wilhelm Leibniz Award by the German Research Foundation (DFG) (Bonn/Germany).

■ **Gerhard Erker** ML, Member of the Chemistry Section, was awarded an Honorary Doctorate by Nagoya University (Nagoya/Japan).

■ **Tanja Fehm** ML, Member of the Gynaecology and Paediatrics Section, was awarded the Prize of the Klüh Foundation for the Promotion of Innovation in Science and Research (Düsseldorf/Germany).

■ **Laura Gagliardi** ML, Member of the Chemistry Section, was awarded the Pauling Medal Award by the Sec-

tions Puget Sound Oregon and Portland of the American Chemical Society (ACS) (USA).

■ **Dirk Görlich** ML, Member of the Biochemistry and Biophysics Section, was awarded the 2024 Louis-Jeantet Prize for Medicine by the Louis-Jeantet Foundation (Geneva/Switzerland).

■ **Magdalena Götz** ML, Member of the Human Genetics and Molecular Medicine Section, was awarded the Hector Science Award by the H.W. & J. Hector Stiftung zu Weinheim and the Hector Foundation II (Weinheim/Germany).

■ **Peter Gruss** ML, Member of the Genetics/Molecular Biology and Cell Biology Section, was awarded the Order of the Rising Sun, Gold and Silver Star by the Japanese government.

■ **Claudia Höbartner** ML, Member of the Biochemistry and Biophysics Section, was awarded the Hansen Family Award by the Bayer Science and Education Foundation (Leverkusen/Germany).

■ **Katalin Karikó** ML, Member of the Human Genetics and Molecular Medicine Section, was awarded the Fries Prize for Improving Health by the CDC Foundation (Atlanta/USA).

■ **Rohini Kuner** ML, Member of the Physiology and Pharmacology/Toxicology Section, was presented with the 2024 Gottfried Wilhelm Leibniz Award by the German Research Foundation (DFG) (Bonn/Germany).

■ **Michael Peter Manns** ML, Member of the Internal Medicine and Dermatology Section, was recognised as an Honorary Member of the German Society of Internal Medicine (Wiesbaden/Germany) and the Society for Gastroenterology in North Rhine-Westphalia (Essen/Germany). In addition he was honoured as Honorary Fellow of the Royal College of Physicians of Thailand (RCPT) (Bangkok/Thailand).

■ **Thomas C. Mettenleiter** ML, Member of the Veterinary Medicine Section, was awarded the Officer's Cross of Merit 1st Class of the Federal Republic of Germany.

■ **Klaus-Robert Müller** ML, Member of the Informat-

ics Section, was awarded the Hector Science Award by the H.W. & J. Hector Stiftung zu Weinheim and the Hector Foundation II (Weinheim/Germany).

■ **Hans-Christian Pape** ML, Member of the Section Neurosciences, was awarded an Honorary Doctorate by the Medical Faculty of the Julius-Maximilians-Universität of Würzburg (Würzburg/Germany). He was also awarded the Officer's Cross of Merit 1st Class of the Federal Republic of Germany.

■ **Stuart Parkin** ML, Member of the Physics Section, was awarded the 2024 Charles Stark Draper Prize for Engineering by the National Academy of Engineering (NAE) (Washington, D.C./USA). He was also honoured with the APS Medal for Exceptional Achievement in Research by the American Physical Society (APS) (College Park/USA).

■ **Peter R. Schreiner** ML, Member of the Chemistry Section, was presented with the 2024 Gottfried Wilhelm Leibniz Award by the German Research Foundation (DFG) (Bonn/Germany).

■ **Petra Schwill** ML, Member of the Physics Section, was awarded the Federal Cross of Merit 1st Class of the Federal Republic of Germany.

■ **Armando Studer** ML, Member of the Chemistry Section, was awarded the Paracelsus Prize by the Swiss Chemical Society (SCS) (Bern/Switzerland).

■ **Eva Viehmann** ML, Member of the Mathematics Section, was presented with the 2024 Gottfried Wilhelm Leibniz Award by the German Research Foundation (DFG) (Bonn/Germany).

■ **Claire Voisin** ML, Member of the Mathematics Section, was awarded the Crafoord Prize in Mathematics by the Crafoord Foundation (Lund/Sweden) and the Royal Swedish Academy of Sciences (Stockholm/Sweden).

■ **Anke Weidenkaff** ML, Member of the Engineering Sciences Section, was elected as Member of acadtech – National Academy of Science and Engineering (Munich/Germany).

■ **Lothar Heinz Wieler** ML, Member of the Global Health Section, was awarded the Officer's Cross of Merit 1st Class of the Federal Republic of Germany.

Deceased members

■ **Reinhard Kühnau** ML | 26 October 1936 to 18 November 2022 | Halle (Saale)/Germany | Mathematics Section

■ **Heiner Müller-Krumbhaar** ML | 20 April 1944 to 23 January 2024 | Jülich/Germany | Physics Section

■ **Hermann Passow** ML | 18 December 1925 to 21 November 2023 | Wetter/Germany | Biochemistry and Biophysics Section

■ **Yutaka Sano** ML | 18 April 1926 to 23 July 2023 | Kyoto/Japan | Anatomy and Anthropology Section

■ **Klaus Peter Sauer** ML | 02 February 1941 to 12 November 2022 | Bonn/Germany | Organismic and Evolutionary Biology Section

■ **Ulrich Schneeweiß** ML | 25 March 1923 to 22 December 2023 | Berlin/Germany | Microbiology and Immunology Section

■ **Jörg Rüdiger Siewert** ML | 08 February 1940 to 09 January 2024 | Heidelberg/Germany | Surgery, Orthopaedics, Anaesthesiology Section

New Class IV members

■ **Katrin Amunts** ML, Düsseldorf/Germany, Universitätsklinikum Düsseldorf, Psychology and Cognitive Sciences Section

■ **Cornelius Borck** ML, Lübeck/Germany, Universität zu Lübeck, History of Science and Medicine Section

■ **Wilhelm Hofmann** ML, Bochum/Germany, Ruhr University Bochum, Psychology and Cognitive Sciences Section

■ **Michela Massimi** ML, Edinburgh/UK, University of Edinburgh, Philosophy of Science Section

■ **David Poeppel** ML, Frankfurt am Main/Germany, Ernst Strüngmann Institute, Psychology and Cognitive Sciences Section

■ **Bernd Skiera** ML, Frankfurt am Main/Germany, Goethe University Frankfurt, Economics and Empirical Social Sciences Section

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Abbreviations:

ML = Member of the Leopoldina