



Leopoldina
Nationale Akademie
der Wissenschaften

Leopoldina news

6 | 2019

Deutsche Akademie der Naturforscher Leopoldina –
German National Academy of Sciences

Halle (Saale), 6 December 2019



Cognitive Enhancement

Providing a basis for a more rational, more open, and more realistic discussion

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Editorial

Dear Members and Friends
of the Leopoldina,



What questions are scientists grappling with and what is so fascinating to them about their individual areas of expertise? The Leopoldina is seeking to discuss this topic in schools in order to illustrate the value of scientific work to young people in a time when we are faced with an unsurmountable deluge of information and fake news. The programme "Academy lectures at Saxony-Anhalt's schools" (see also p. 4), which began in November, seeks to address these issues. Members of the academy offer lectures and discussions on their specialist topics and are then put in contact with schools that share their interests.

I am delighted that so many Leopoldina members are contributing to these efforts and I am thoroughly impressed by the number of requests we have already received in the first few weeks of this project. For the great success it has seen so far, I would like to express my thanks to all the scientists who have chosen to take part, the teachers who have invested their time, the Saxony-Anhalt Ministry of Education for its work as a project partner and the employees of the project office.

It is no coincidence that it was initiated in our very own federal state. Because while the Leopoldina is – on a larger scale – the National Academy of Sciences, it also has close, local ties to Halle and the state of Saxony-Anhalt. In the past years, we have strengthened the bonds we have with our prolific contacts and project partners as well as creating new ones. These co-operative efforts are exemplified in the debate series on Europe with the Halle Institute for Economic Research (IWH; see p. 4), numerous events organised with Martin Luther University Halle-Wittenberg and non-university institutions, and the Silbersalz Science Film Festival. The Leopoldina benefits from its partnerships in many ways, which is why it is such a pleasure for us to give something back with this new school project.

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

Jörg Hacker

Technical support for cognitive abilities

Class IV Cognitive Enhancement symposium / new members elected



The new members of Class IV: On 6 November 2019, the new members of Class IV – Humanities, Social and Behavioural Sciences received their membership certificates. Back row from left to right: Leopoldina Secretary-General Prof. Dr. Jutta Schnitzer-Ungeweg (Halle), Prof. Dr. Stefan Huster ML (Bochum), Prof. Dr. Jürgen Gerhards ML (Berlin), Prof. Dr. Helmuth Trischler ML (Munich). Front row from left to right: Prof. Dr. Andreas Voßkuhle ML (Freiburg i. Br.) and President of the Leopoldina Prof. Dr. Jörg Hacker ML (Halle).

Image: Markus Scholz | Leopoldina

Prof. Dr. Reinhard Merkel ML held the Leopoldina Lecture on 6 November to accompany the presentation of certificates to the new members of Class IV. The Class IV symposium organised by Prof. Dr. Bernhard Hommel ML took place the following day.

When the state imposes a penalty, is it an act of revenge on behalf of the victim? Hamburg criminal lawyer Prof. Dr. Reinhard Merkel ML (Hamburg/Germany) doesn't think so, because he believes that revenge has an inherent tendency to be disproportionate. He says that the development of the societal concept of retribution was the decisive factor in justifying punishment as a public good. This means that a punishment is imposed which is fair and proportionate to the offence.

The following day, Prof. Dr. Merkel spoke once again at the Cognitive Enhancement symposium, where he drew attention to the ethical and legal principles and limitations of direct and indirect methods of intervention in humans which are intended to have a positive effect. A series of indirect techniques and practices were presented at the symposium.

These are reliant on the structural plasticity, or changeability, of the human brain. According to Prof. Dr. Simone Kühn (Berlin/Germany), certain video-games can have a positive influence on memory. Using neurofeedback, Prof. Dr. Rainer Goebel ML (Maastricht/Netherlands) demonstrated a technique based on real-time visualisation of brain activity. If someone were to change their thoughts or behaviour, this could be observed in real time as a change in brain activity and be positively influenced. Dr. Marieke van Vugt (Groningen/Netherlands) discussed the positive effects that open monitoring meditation has on facial recognition.

Using primary-school children and elderly people as an example, Prof. Dr. Julia Karbach (Koblenz/Germany) emphasized that all ages must be taken into account in strategies for improving cognitive abilities. In the final presentation, Prof. Dr. Bernhard Hommel ML (Leiden/Netherlands) expounded on the potential of cognitive enhancement as an individualised strategy while also citing the various problems associated with it, for instance a lack of certified devices. (cbr)

Beijing Declaration on Basic Science

Chinese Academy of Sciences and Leopoldina sign joint declaration

Under the title “Science for Future”, the Leopoldina and the Chinese Academy of Sciences (CAS) have partnered up to organise a conference series on scientific standards and the challenges of basic research. In conjunction with the first event, the joint Beijing Declaration on Basic Science was published in September. Co-initiators Prof. Dr. Katharina Kohse-Höinghaus ML and Prof. Dr. Harald Fuchs ML spoke on the factors which prompted this co-operation.

What led to the Beijing Declaration on Basic Science and the related conference series?

Katharina Kohse-Höinghaus: First of all, we thought that the German National Academy and the Chinese Academy of Sciences should somehow cooperate on a formal level. So, we set up a meeting in Berlin where core groups from each side came together.

Harald Fuchs: And it was also important to us to not just think in the short term and focus on applied research. What we now have is a global declaration of the particular significance of basic science. Things that may seem useless at first glance often prove to be a very useful foundation for new technological developments later on.

What significance does basic science have in China?

Fuchs: Chinese researchers have already been calling for stronger basic science for a long time. But they frequently add “... which is good for China”, meaning for the technology which has made enormous progress there in recent years. China has invested an incredible amount of money in this type of basic science in the last 20 years, but there has never been a Nobel Prize, for instance, which could be directly attributed to this funding. Today, China is very active in fundamental research-based sciences such as astronomy, biology and quantum technology.

Does this also include research in the social sciences and humanities?

Kohse-Höinghaus: This is mentioned explicitly in the Beijing Declaration. Whether you're talking about the Grand Chal-



The presidents with the signed Beijing Declaration on Basic Science: Jörg Hacker (left) representing the German National Academy of Sciences Leopoldina and Bai Chunli (right) representing the Chinese Academy of Sciences.

Image: Yang Tian Peng

lenges or the UN's 17 sustainable development goals, nothing is possible without social sciences and ethics.

An initial conference to launch the partnership took place in China in September. Can you tell us what happened there?

Kohse-Höinghaus: We intentionally didn't plan a specific topic for the conference at the beginning. Instead, we wanted to present outstanding scientific contributions in areas where interesting things are happening, from quantum technology to genetic engineering to the Third Pole – an extended region which comprises the Tibetan Plateau and the Himalayas and which contains a comparable amount of ice to the North and South Poles.

It was also very important to us that young scientists at the beginning of their careers actively participate in the conference. The Chinese faction didn't quite understand that at first, but in the end, the lectures held by young scientists were among the most exciting aspects of the entire event.

Fuchs: Another highlight was the presentation held by 97-year-old Chinese Nobel Prize winner Chen Ning Yang. The young students started queuing up at three in the morning to hear him speak. They hung on

his every word, and he actually said exactly what's stated in the Beijing Declaration. Young researchers should ask themselves what really interests them – what ignites a spark in them – and get involved with these fields, regardless of their immediate technological benefit.

It has been said that with cooperative efforts such as these, the Chinese benefit from our research and we end up gaining less in return. Is this really the case?

Fuchs: I can't say that's generally true anymore for my area of work in nanotechnology. I have very good doctoral students and postdocs from China who contribute things that we don't yet have here in the same way, for instance in the area of new functional materials. Of course, things might be completely different in certain fields at our technical universities.

Kohse-Höinghaus: I work in the field of combustion and am currently concerned with environmental pollution and emissions. The progress China has made in this field in the past decade is huge. If the air quality in China improves, then the entire world will benefit. That's why I find our co-operation to be essential.

THE INTERVIEW WAS CONDUCTED BY CHRISTOPH DROESSER

Over 100 Leopoldina members visit Saxony-Anhalt's schools

Opening of Academy lectures at state secondary school for music

Why are 1000 million tonnes of chlorophyll produced and then broken down each year? Were the dinosaurs able to see the autumn colours associated with chlorophyll degradation? Prof. Dr. Bernhard Kräutler ML answered these exciting questions and more on 12 November for an audience of 120 pupils from Years 8, 9 and 10 at the Landesgymnasium für Musik, a music-focused state secondary school in Wernigerode.

With his presentation entitled "The autumn colours and the disappearance of chlorophyll", the chemist from the University of Innsbruck (Austria) marked the beginning of the "Academy lectures at Saxony-Anhalt's schools". The Leopoldina wants to use this new format to promote interactions between researchers in all disciplines and school pupils in the academy's home state. Kräutler has succeeded in taking what are, for many, fairly abstract research questions and results and replacing them with concrete conceptions – a feat for

which he has garnered a lot of respect.

In the spring, over 100 members of the Leopoldina had already put forth topics from all disciplines to be presented at selective secondary schools. The lectures cover a broad range of topics, such as Joseph von Eichendorff's poetry, megacities, oncology, addiction prevention and climate change. Many ideas were also developed for the presentation format. For instance, Bernhard Kräutler started his talk in front of a large audience in the assembly hall and then delved deeper into some aspects of biochemistry in a smaller double-period seminar with two Year 10 classes.

The Ministry of Education distributed the lecture catalogue to the selective secondary schools in Saxony-Anhalt at the beginning of the 2019/2020 school year. It was met with huge demand and 30 events have already been scheduled. Now, the goal is to ensure this format can continue being used in the future and to offer a new catalogue of topics next year which is just as exhaustive as this one. (ew)

Huge human impact on the earth as an ecosystem

Huge human impact on the earth as an ecosystem

The Young Academy has introduced the ClimateLectures series to explore the impact humans have on the environment. The series started off in Berlin/Germany on 18 October by focusing on microplastic pollution.

According to Young Academy member Jun.-Prof. Dr. Ricarda Winkelmann (Potsdam/Germany), this problem vividly highlights the enormous impact that we humans have on the earth as an ecosystem, an impact which has led scientists to propose the name Anthropocene for our current geological epoch. The presentation held by Dr. Thomas Mani (Zurich/Switzerland) began with an introduction to the history and means of plastic production. He then outlined his own research, which is concerned with the dispersion of microparticles (smaller than five millime-

tres) in bodies of water. We cannot predict exactly how humans will be affected by the dramatic spread of these tiny plastic particles in the environment, Mani states.

That is why everyone who took part in the discussion following the presentation – including Young Academy member Jun.-Prof. Dr. Robert Kretschmer (Jena/Germany) and alumna Prof. Dr. Bernadett Weinzierl (Vienna/Austria) – agreed on the need for action. Just as the debates on acid rain in the 1980s led to tougher legislation and ultimately a drastic fall in sulphur dioxide emissions, we must now engage in wide-ranging discussions and take extensive measures to stop the spread of microplastics and prevent any negative effects it may have.

The next ClimateLecture will take place in Berlin on 24 January 2020. (yb)

How much democracy does Europe need?

Decisions made by the European Union (EU) play an increasingly influential role in Germany's society and politics. But do they meet the democratic standards that apply to the country's domestic political process? On 17 October, the Halle Institute for Economic Research (IWH) – Member of the Leibniz Association and the Leopoldina hosted an evening discussion entitled "How much democracy does Europe need?" to inaugurate the Europe Debates set to take place biannually. Prof. Dr. Eva Heidbreder, political scientist at Otto von Guericke University Magdeburg, discussed this issue with Sven Schulze, Saxony-Anhalt's representative member of the European Parliament, and Prof. Dr. Jürgen Kocka ML, emeritus professor at the WZB Berlin Social Science Centre.



Evening discussion: "How much democracy does Europe need?" Image: Markus Scholz | Leopoldina

At the start, the structure and functions of the European Parliament took centre stage, but as the evening went on, the focus expanded to cover the complex interaction of the Parliament with the European Commission and the European Council. It became clear that approaches to shaping democratic processes at the EU level are largely dependent on individual perceptions of how much weight citizens' nationally established democratic participation should carry in the future.

The next debate in this series will take place on 4 June 2020 and will focus on the question "Is the financial system in Europe crisis-proof?". The discussion will once again take place at the Leopoldina, led by IWH President Prof. Dr. Reint E. Gropp and Prof. Dr. Lars P. Feld ML. (art, aru)

Sustainable development: a question of science

Science Platform submits recommendations to the German federal government

The Science Platform Sustainability 2030 held its first annual conference in Berlin on 6 December, entitled “Sustainable development: a question of science. Incentives and innovations for Germany’s National Sustainable Development Strategy”, where it submitted an official statement to the German federal government. The objective of the science-based recommendations for action is to strengthen and further develop the structure and implementation of Germany’s National Sustainable Development Strategy.

Barely a decade remains to implement the United Nations’ 2030 Agenda for sustainable development and achieve the 17 Sustainable Development Goals (SDGs).

Despite a general focus on the SDGs, the statement claims that sustainable development in Germany has yet to achieve much influence in key policy fields, and in many areas the goals are still far off. This is where science must act as a driving force. Specifically, the statement recommends strengthening positive interactions between individual sustainable development goals and resolving any conflicts amongst them. Furthermore, the reasons that goals are not met must be analysed and corrective measures introduced. In particular, sustainability governance and dialogue between science and politics must be enhanced.

In addition to these recommenda-

tions, the Science Platform took the annual conference as an opportunity to present the latest results of work in areas such as global common goods, the future of work, consumption and mobility, setting the stage for a joint discussion between politicians, scientists, and industry and civil society representatives.

The Science Platform was officially founded in May 2017 and has been systematically integrated into Germany’s political steering, dialogue and implementation process for the 2030 Agenda. President of the Leopoldina Prof. Dr. Jörg Hacker ML was appointed to the Steering Committee in April 2017 ad personam. (chw)

■ SCIENCE PLATFORM

Human rights and education

Académie des Sciences and Leopoldina symposium

The right to education is enshrined in the United Nations’ Universal Declaration of Human Rights. The Leopoldina’s Human Rights Committee (HRC) and the Standing Committee for the Defence of Scientists’ Rights at the Académie des Sciences organised the Human Rights and Scientific Education symposium in Paris/France on 11 September to explore the relationship between human rights and education.

In scientific presentations and discussions, members of the delegations from both countries as well as a number of other interested attendees debated ethical aspects of human rights education, the role of human rights in science and the defence of persecuted scientists. They went on to discuss immigration and diversity in the



Members of the Leopoldina and the Académie des Sciences spoke on the relationship between human rights and education.

Image: Leopoldina

education sector. Prof. Dr. Viola Georgi (University of Hildesheim/Germany) stressed the central role played by human rights education in the fight against violence, extremism, racism and xenophobia.

One highlight was the discussion with Lilian Thuram, a former player for the French national football team, who introduced the steps

his foundation is taking to educate people about equality and racism prevention and discussed the educational needs of children and young people with an immigrant background.

The 9th symposium in the Human Rights and Science series will take place in 2021 in cooperation with the Royal Society of Edinburgh in Scotland/UK. (jn)

Statement on new WHO disease classification

A World Health Organisation (WHO) measure was the topic of discussion at the general assembly of the European Academies’ Science Advisory Council (EASAC) in June. In the draft for the latest version of its International Classification of Diseases, ICD-11, the WHO had included a chapter on traditional Chinese medicine (TCM) for the first time.

After internal consultations and talks with the European medical academies, the EASAC members responded with a joint position paper published in November. Titled “Traditional Chinese Medicine”, this paper draws attention to the fact that the WHO’s approach could trigger uncertainty among patients regarding the comparison of TCM and conventional Western medicine. At the same time, TCM supporters could use the new version of the classification to equate traditional Chinese methods with evidence-based medicine. The paper points out that TCM not only poses a risk of poisoning, due to a lack of standardisation and inspection of contents, but can also lead to delays in treatment with evidence-based medicine. (csd)

■ EASAC STATEMENT
TRADITIONAL CHINESE MEDICINE



Memorial for Benno Parthier

Molecular biologist Prof. Dr. Benno Parthier passed away in August of this year. He was the 24th President of the Leopoldina, having served from 1990 to 2003. The Academy is organising a memorial service on 23 January 2020 from 11am to 5pm. Parthier's colleagues from the Leopoldina, the Leibniz Institute of Plant Biochemistry Halle and the political world will take the opportunity to commemorate him at this event. The speakers will cover Parthier's work as a researcher and research manager for the Academy, science in general and scientific policy. There will be a reception in the Leopoldina's lounge area from 5pm. (jk)

Image: David Ausserhofer | Leopoldina

Climate change as a health risk

European Parliament and German education ministry address the EASAC report

In June, the European national science academies which make up the EASAC association published the statement "The Imperative of Climate Action to Protect Human Health in Europe" – and now, two other Leopoldina initiatives are taking up the same issue.

Climate change represents a health risk in Europe that has both direct and indirect effects which are spread via ecosystems and socioeconomic systems. This means that the risk of communicable and non-communicable diseases, injuries and psychological illnesses could increase. The most at-risk groups include the elderly, children, and people with prior illnesses, as well as refugees and marginalised segments of the population.

Due the urgency of the issue, policy makers are searching for ways to prepare society for the foreseeable climate-related changes. The European Parliamentary Research Service (EPRS) invited the Members of the European Parliament to come together on 1 October and familiarise themselves with the June 2019 statement. Around 80 MEPs took advantage of this opportunity and

listened as former President of the Leopoldina Prof. Dr. Volker ter Meulen ML introduced and thoroughly elucidated the recommendations.

In Germany, meanwhile, the EASAC statement has prompted the Federal Ministry of Education and Research to fund the "Climate change and health" project until March 2022. The project was initiated by the Leopoldina and the global InterAcademy Partnership (IAP), including the four regional academy networks – AASSA (Asia), EASAC (Europe), IANAS (the Americas) and NASAC (Africa). The goal is to highlight the similarities and differences between the regions and to develop recommendations for political decision-makers. Both objectives are set to be met with regional reports and a global summary for the public.

The new project group's first meeting took place in Halle from 4 to 5 November, where participants discussed the current state of research and a common approach for future work. (csd, jmo)

■ EASAC REPORT THE IMPERATIVE OF CLIMATE ACTION

Fellowship for young historians

The Friends of the Leopoldina Academy are once again offering the Johann-Lorenz-Bausch Fellowship in 2020. Applications are open until 31 January 2020.



The scholarship *Johann Lorenz Bausch was one of the Leopoldina founders*. Image: Leopoldina

the history of science, be it in the narrow or broad sense of the term. Nonetheless, their research should also involve the history of the National Academy Leopoldina, its publications or the work of its members. Entries are not restricted to specific disciplines or methodological approaches.

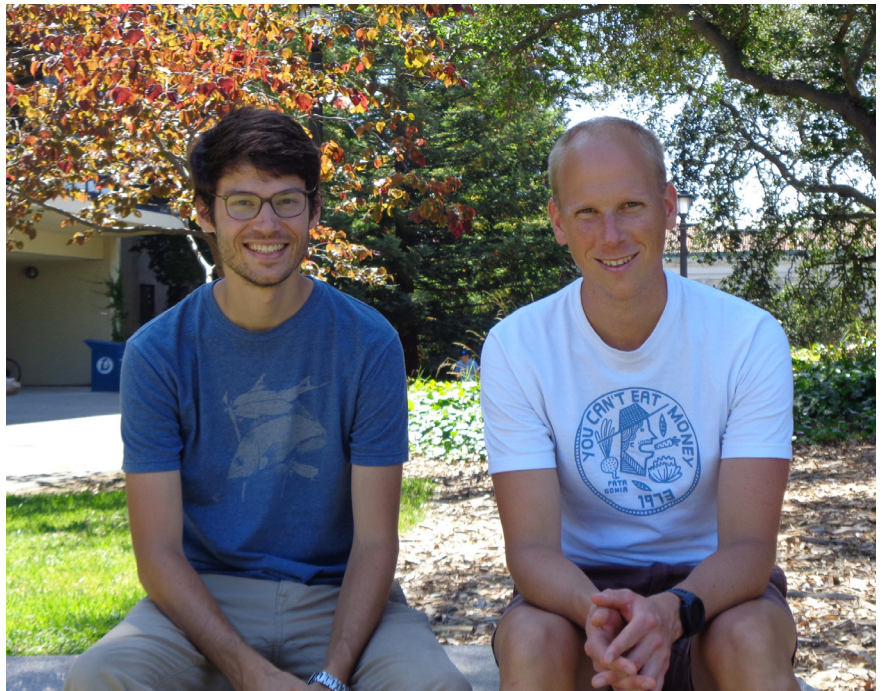
Successful applicants will receive a monthly grant of 1,250 euros for up to four months. During their research stay, they will have access to the Leopoldina's own library and archives as well as those in the local area and wider region. They will work at the Leopoldina Centre for Science Studies, offering them added opportunities to connect with other researchers. (lbe)

■ JOHANN-LORENZ-BAUSCH-SCHOLARSHIP 2020 (GERMAN ONLY)



Economist Annabelle Dörr (top) and physicists Markus Schmitt and Björn Sbierski (right) are currently conducting research at the University of California, Berkeley, thanks to a Leopoldina postdoc scholarship.

Images: private, Andreas Clausing



Leopoldina supports physicists and economist

National Academy's postdoc programme funds German researchers abroad

The University of California, Berkeley is renowned for its research, which has a significant international impact reaching far beyond the academic world. The university's reputation has drawn postdoc scholars from the Leopoldina ever since the fellowship programme was founded in 1997.

UC Berkeley is currently hosting two physicists from Germany, Dr. Markus Schmitt and Dr. Björn Sbierski. Dr. Schmitt studied physics and high-performance computing in Göttingen/Germany and Edinburgh/UK before completing his doctorate – also at the University of Göttingen – and taking up his first postdoc role at the Max Planck Institute for the Physics of Complex Systems in Dresden. Dr. Sbierski also has an initial postdoc position under his belt, in the Emmy Noether junior research group led by Prof. Dr. Christoph Karrasch at the Freie Universität Berlin.

Two physicist in one working group

Although they come from different home institutions and have followed different career paths so far, both researchers decided on the same destination and the same working group. Their host Prof. Dr. Joel Moore, a world-renowned expert in

his field, supports a broad spectrum of theoretical physics research at Berkeley's Condensed Matter Theory Center.

Dr. Markus Schmitt is running experiments at the Center to explore fundamental questions in solid state physics. He is also analysing combinations of wave functions and classic networks. Dr. Björn Sbierski, meanwhile, is working to understand and explain the theory behind experimental findings on graphene. Both scientists' projects build on the research they carried out for their theses and delve deep into the physics of condensed matter.

Unreported employment in the USA and Germany

Dr. Annabelle Dörr's work concerns a different field, one which also has a theoretical basis but aims to develop concrete applications. She is an economist who specialises in labour markets and has held postdoc positions at the University of Freiburg in Germany and the University of Basel in Switzerland. Before moving to Berkeley's Department of Economics, she most recently worked in Germany researching behavioural economics, where her studies attracted interest from as far afield as the USA.

The phenomenon of unreported employment or "working under the table" is

seen in all industrial nations and makes up a significant portion of the economy. In private households, tax evasion is the key motivator behind unreported employment. The likelihood of being discovered is comparatively low, and workplace flexibility and acceptance of working under the table relatively high.

With her Leopoldina postdoc scholarship, Dr. Dörr is now working on comparing the scale of unreported employment and the reasons behind it in private households in Germany and the USA. She is using an experimental approach based on specific job offers. Prof. Dr. David Card is supporting her in testing and refining this approach at Berkeley's Center for Labor Economics. They have already modified individual steps of her process to account for differences between the two countries' labour markets and legislation.

Dr. Dörr is also keeping abreast of the situation in Germany to ensure a seamless transition into research in her home country once she returns. She hopes to set up a working group or find a post as a junior professor – options which will also be open to Dr. Markus Schmitt and Dr. Björn Sbierski on their return. (ac)

“It’s impossible not to have mixed feelings about his work”

In conversation with Prof. Dr. Christina Brandt on the eminent German zoologist Ernst Haeckel

The two-day autumn conference of the Leopoldina Centre for Science Studies focused on the zoologist and physician Ernst Haeckel (1834–1919) in commemoration of the 100th anniversary of the former Leopoldina member’s death. The central topic was his scientific work and legacy. Prof. Dr. Christina Brandt, head of the Ernst-Haeckel-Haus in Jena, and Prof. Dr. Rainer Godel, head of the Leopoldina Centre for Science Studies, discuss the current state of research.

Why did the autumn conference of the Leopoldina Centre for Science Studies concentrate on Ernst Haeckel?

Rainer Godel: One reason was, of course, the 100th anniversary of Haeckel’s death. He had been a Member of the Leopoldina since 1863. But we’d already been working on Haeckel for some time – since 2013, in fact – overseeing the Academy’s efforts to edit his correspondence. The project is set to last 25 years, with the aim of producing a complete digital edition of all of the letters that Haeckel sent and received, with some excerpts also being published in book form. So, for the conference, we wanted to take an academic and historiographic approach to his work and legacy.

What do you find most interesting about engaging with Haeckel in this way?

Christina Brandt: From a biographical standpoint, it’s impossible not to have mixed feelings about Haeckel’s work. He contributed a great deal to our understanding of biology, but also to the political reception of Darwinism and to ideas about race which could be deemed repugnant from a contemporary viewpoint. Haeckel is very much of his time, so when you look at him, you’re sure to be confronted with these problematic 19th-century discourses.

What discourses are those?

Brandt: Haeckel worked on an exceptionally broad range of subjects. He coined many new terms in biology, from “stem cell” to “ecology”. He had artistic ambitions and a great many scientific contacts. Many young men came to Jena to study



Christina Brandt is Professor of History and Philosophy of Natural Sciences with an emphasis on Life Sciences at Friedrich Schiller University in Jena and also runs the Ernst-Haeckel-Haus located there, which she hopes to establish as an international research hub. Image: Markus Scholz | Leopoldina

with him. In the 19th century, Jena was one of the key stopping points in a young biologist’s career.

However, one example of Haeckel’s complexity is that he was among the first scholars in the German-speaking world to take up Darwin’s theory of evolution. He became popular for publicising Darwin’s ideas, but also because he paved the way for social Darwinism. He applied Darwin’s theory to modern society and generalised the concept of evolution, for example the fight for survival, as part of a radical paradigm of progress.

Haeckel’s writing was used by the Nazis to justify their doctrines on eugenics and race. Should Haeckel be posthumously defended against this appropriation of his work?

Brandt: What we can say is that Haeckel’s work contributed to the development of eugenics theories in the early 20th century and that he himself seemed to express a favourable view of eugenics via the systematic killing of humans deemed undesirable. In classifying different races within a hierarchy – Haeckel himself even spoke of different “species” of humans – he was certainly exposed as problematic, but he

wasn’t alone among his contemporaries in doing so.

The question of whether this means that he justified Nazi ideas of racial purity and systematic mass murder is historically complex. There’s certainly a difference between ideological statements on the one hand and, on the other, the programme of eugenics and the biopolitical state which became a reality in Germany from 1933 onwards. Between the two, many more historical circumstances all had to converge in a particular way. One US researcher in the 1970s drew a straight line from Haeckel to Nazi reign, but that was heavily criticised by other academics – not because they wanted to exonerate Haeckel, but because it was too a simplistic view of historical developments.

What can Haeckel’s research teach us today?

Brandt: There’s already quite a comprehensive body of work on Haeckel – on his contributions to biology and embryology, and his relationships with the cultural and the aesthetic. At the Ernst-Haeckel-Haus in Jena, we want to look more at his reception within the political system, for example under the Nazis or in East Germany. That is, we want to research the ways themselves in which Haeckel is remembered. And there are also new perspectives on his popularisation. He was a public intellectual whose philosophy had a far-reaching social impact. We can hope to see new research in this direction inspired by our work on editing Haeckel’s letters.

What were you able to take away from the autumn conference?

Godel: An event like this isn’t an opportunity to eulogise an individual scientist, but to engage with them from an academic perspective. We also have to discuss things that don’t show them in such a good light. I firmly believe that we as an academy need to address the work and legacy of our members, even when this involves uncovering unpleasant truths such as Haeckel’s receptiveness to various forms of racism. It’s important to have the courage for this critical examination.

THE INTERVIEW WAS CONDUCTED BY BENJAMIN HAERDLE

People

Deceased members

■ Kalle Achté ML

**11 September 1928 - 29 January 2019 | Helsinki/ Finland
Neurosciences**

In 1968, Kalle Achté was named a full professor of psychiatry at the University of Helsinki/ Finland and head physician of the Department of Psychiatry at HUS Helsinki University Hospital. Prior to that, he served as head physician at the Hesperia Hospital in Helsinki (today HUH Psychiatry Centre) from 1966 to 1968. His scientific work involved research on schizophrenia and suicide and also addressed suicide prevention and psychosocial activities. From 1971 onwards, he served as President of the European League for Mental Health. He was a member of the British Royal Society of Medicine, the German Association for Psychiatry and Neurology and the International Association for Suicide Prevention (IASP). He became a member of the Leopoldina in 1973.

■ Sydney Brenner ML

**13 January 1927 - 5 April 2019 | Singapore
Genetics/Molecular Biology and Cell Biology**

Sydney Brenner joined the Salk Institute for Biological Studies in La Jolla/ USA as a Distinguished Professor in 2000. Considered one of the pioneers of genetics and molecular biology, he established the roundworm *Caenorhabditis elegans* as a model organism for researching human diseases as well as for analysing cell division, cell maturity and organ development. He also successfully described the first genes to play a significant role in programmed cell death (apoptosis). For his work, he was honoured with the 2002 Nobel Prize in Physiology or Medicine together with H. Robert Horvitz and John E. Sulston. In 2009, he received the Grand Cross of the Portuguese Order of Prince Henry. Brenner was elected a member of the Leopoldina in 1975.

■ Meinhard Classen ML

12 August 1936 - 6 October 2019

Internal Medicine and Dermatology

From 1985 to 2002, gastroenterologist Meinhard Classen was a full professor of internal medicine at the Technical University of Munich (TUM) and the director of at the Department of Internal Medicine II at the University Hospital rechts der Isar. His scientific work focused on digestive oncology, in particular tumour prevention, and shaped the development of endoscopy as a therapeutic discipline. Classen served as President of the World Gastroenterology Organisation (WGO) from 1998 to 2002 before founding the International Digestive Cancer Alliance (IDCA) in 2002. He received numerous awards, including the German Federal Cross of Merit, First Class (1995) and the Gustav von Bergmann Medal of the Deutsche Gesellschaft für Innere Medizin (German Association of Internal Medicine) (2009). He became a member of the Leopoldina in 1991.

■ Joachim Messing ML

**10 September 1946 -13 September 2019 | Somerset/ USA
Genetics/Molecular Biology and Cell Biology**

Joachim Messing served as the director of the Waksman Institute of Microbiology at Rutgers University in New Jersey/USA from 1988 onwards and was appointed the Selman A. Waksman Professor of Molecular Genetics in 2009. The molecular biologist was the most highly cited author in the sciences during the 1980s due to his development of the “shotgun” method of DNA sequencing. His findings revolutionised our understanding of the human and other genomes. By making his materials and methods freely available, he laid the foundations for the emerging discipline of biotechnology. Messing received the Wolf Prize in Agriculture in 2013 and was honoured with the American Society for Microbiology’s Promega Biotechnology Research Award in 2014. He was elected to the Leopoldina in 2007.

Leopoldina Fellowship Programme

New fellows

Dr. Sebastian Beil of the Institute of Organic Chemistry I at Ulm University will spend 18 months at the Department of Chemistry at Princeton University/ USA under Prof. Dr. David W. C. MacMillan.

Dr. Matthias Schmid of the Institute of Organic Chemistry at the Technical University of Munich (TUM) and the University of Innsbruck will spend 24 months at the Department of Chemical Engineering and Chemistry at Eindhoven University of Technology/ Netherlands, where he will work with Prof. Dr. Timothy Noël.

Dr. Nils Ludwig has completed his postdoc at the Cancer Institute of the University of Pittsburgh/ USA under Prof. Dr. Theresa L. Whiteside. He has received a Returning Fellow Scholarship to spend six months at the Department of Cranio-Maxillofacial Surgery at the University Hospital Regensburg.

Former fellows

Prof. Dr. Katharina Brinkert, a Leopoldina fellow from 2017 to 2019 in the Division of Chemistry and Chemical Engineering at the California Institute of Technology, Pasadena/ USA, was appointed Assistant Professor at the University of Warwick/ UK in September.

Prof. Dr. Elena Mäder-Baumdicker, a Leopoldina fellow from 2017 to 2019 at the Department of Mathematics at Princeton University/ USA, has been leading the Working Group for Geometry and Approximation as a Junior Professor in the Department of Mathematics at TU Darmstadt since April.



Leopoldina
Nationale Akademie
der Wissenschaften

Imprint

Deutsche Akademie der Naturforscher Leopoldina – Nationale Akademie der Wissenschaften

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Design:

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