Leopoldina
Nationale Akademie
der Wissenschaften

Leopoldina news

Deutsche Akademie der Naturforscher Leopoldina –
German National Academy of Sciences

Halle, 4 December 2013 04|2013

Federal President stresses importance of policy advice

Speech by Joachim Gauck at the opening ceremony for the 2013 Annual Assembly

"It is fascinating to hear about how people are learning to better understand the workings of the human mind." These were the words that Federal President Joachim Gauck used to introduce guests at the Leopoldina's Annual Assembly to the topic of the three-day event, "Mind – brain – genome – society. How did I become the person I am?" During his speech at the opening ceremony, Gauck, who is patron of the German National Academy of Sciences Leopoldina, also talked about the challenges that can arise from research findings. "Every step in understanding raises new questions for individuals, for the scientific community and, in the final analysis, for society as a whole. It is precisely because these new questions are relevant to our society that they are issues for the Leopoldina. Now, in its most recent role as the German National Academy of Sciences, the Leopoldina has taken on a task that I believe is of the utmost importance," he said.

German Federal President Joachim Gauck at the Annual Assembly. Photo: David Ausserhofer

The Federal President also looked back on the Leopoldina's history, from its foundation in 1652 and its subsequent establishment in Halle to the decades when Germany was divided and the Academy showed that "there is a solidarity of the mind that transcends borders and unites people." Gauck emphasised the particular importance of the Leopoldina's Annual Assembly during that period in terms of providing scientists in East Germany with an opportunity to discuss ideas and experiences with top researchers from around the world.

The Federal President said that the Leopoldina had upheld the very best from its long history. He said that it stood for scientific integrity and expertise, and added a clearly audible voice to discourse in society. In his speech, he also stressed the importance of science-based policy advice. At the end of his talk, he called for better basic funding for universities in Germany. His comments on this point were widely discussed in the media. "In view of global competition, we must strengthen research and development," Gauck said. (jk)

Dear Members and Friends of the Leopoldina,

In the run-up to the German general election, all the political parties acknowledged the need to make education and research an even higher priority. The discussions about the future of the scientific system started quite some time ago, and included input from the Leopoldina. It is now time for decisions to be made.

The German coalition agreement contains a series of points on this issue, although it remains to be seen how they will be put into practice. Examples include the continuation of the Excellence Initiative, as well as the possibility of the Federal Government providing more funding for basic university research. The sustainable development of our universities is of particular importance, as it is only in these institutions that teaching, research and knowledge transfer are so inextricably intertwined. Boosting our universities would be an important investment in our country's future. I hope that the new government will provide planning certainty in the near future and that the commitment to making Germany a "republic of knowledge" – or indeed a "republic of science" – will be fulfilled. On that note, I wish you a very merry Christmas and all the best for the New Year.

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500 guests discuss “Mind – Brain – Genome – Society” at the Annual Assembly

Four sessions with an interdisciplinary perspective and a very wide range of topics

How is our personality formed and what roles do the mind, brain, genome and society play in the process? This was the key question at the Leopoldina’s 2013 Annual Assembly, which was held for the first time in the Academy’s new main building on Jägerberg in Halle. More than 500 guests attended the 18 lectures that were delivered during the three-day Annual Assembly. Prof. Onur Güntürkün ML coordinated the scientific organisation of the event.

In session 1, four lectures dealt with the interplay between the genome and the brain. Prof. Andreas Meyer-Lindenberg ML (Mannheim) spoke on the subject of mental health in modern lifeworlds: genes and the environment. He described the search for risk factors for psychiatric disorders in the lifeworld and the relationship between the social environment and longevity. Meyer-Lindenberg explained that a well-functioning social network is the key influence on lifespan, but that living in a large city is a risk factor for depression and many other types of psychiatric disorders. Urban living and migration, he said, are the greatest risk factors for schizophrenia. He showed how these findings can be used in personalised therapy and to prevent psychiatric disorders. He also stressed that the social environment interacts with genetic factors via brain mechanisms.

The four lectures in session 2 focused on the relationship between the brain and the mind. Prof. Patrick Haggard (London) used his lecture to address the question of whether conscious free will is a brain function. In his research, Prof. Haggard has explored the problem of the neurobiological basis of action. The studies that he presented demonstrated that it is incorrect to regard an action as commencing with a conscious intention, which is followed by activity in the brain and finally by the action itself. Instead one must assume that the brain activity comes first and is followed by an action, with a conscious intention sometimes coming between the two. Despite this, he explained, we perceive ourselves as the originators of our actions – probably because we construct our decision retrospectively. In Haggard’s words: “We do something and afterwards we say that we wanted to do it and we decided to do it.” His conclusion was that conscious free will is an illusion.

The Leopoldina Annual Assembly was held for the first time in the Academy’s new main building on Jägerberg in Halle. Photo: Markus Scholz

YOUNG ACADEMY DISCUSSES CREATIVITY AND PLAGIARISM

The four lectures in session 3 looked at how the mind and society affect each other. In his lecture entitled “Education in the course of life”, Prof. Hans-Peter Blossfeld ML (San Domenico di Fiesole, Italy) presented a variety of theses from modern educational research. He focused on the relationship between educational decisions and skills in the course of an individual’s life and on the important role played by socialisation processes within the family. He quoted the phrase “Those who have will receive more” to sum up the basic principle that a high level of education usually leads to better educational decisions and hence to higher skills. As regards the German educational system, he addressed the importance of teachers’ recommendations about the type of secondary school a pupil should attend, but stressed that many educational decisions can be corrected later on and also that the three-tier secondary school system is relatively permeable. Blossfeld also described the considerable effect that stimulation at the pre-school stage can have and pointed out the importance of ensuring that the stimulation provided in early childhood is continued during a child’s school years. Further investment was also needed to improve the poor quality of nursery care in Germany, he said.

The second day of the Annual Assembly concluded with the Young Academy workshop entitled “Original idea or plagiarism? The production of knowledge and innovation in science and society.” In his lecture, Prof. Alexander Danzer (Munich) explored whether the way in which the science system works promotes creativity or whether it increases the risk of plagiarism and falsification. Prof. Lena Henningsen (Freiburg) spoke about

the Chinese book market, which includes phenomena such as fan fiction and fake authors. She pointed out that these examples demonstrate the potential of imitation as a means of promoting creativity; imitation facilitates originality and knowledge transfer. These ideas provoked a lively debate in the subsequent discussion, especially with regard to the different views on imitation in art and science.

LEOPOLDINA LECTURE "HOW THE BRAIN CREATES CULTURE"

Finally, session 4 on Sunday was given over to the subject of society and the genome and addressed the interplay between genetic make-up and social phenomena. The potential benefits of research in this area were described by Prof. Andreas Plagemann (Berlin) in his talk on perinatal programming. For example, excess weight, diabetes or stress in pregnant women are regarded as risk factors for ill health in children. According to Plagemann, "vegetative imprinting" of the foetus takes place even before birth. While this finding may sound alarming in view of the rapid increase in obesity, it has the potential to be useful because, as Plagemann pointed out, there is scope for primary prevention measures to counteract these environmental disease factors.

Prof. Chris Frith (London) closed the Annual Assembly with the Leopoldina Lecture, which was called "How the Brain creates Culture". In an entertaining speech that included many practical examples, he showed the audience which mechanisms of conscious and in particular unconscious social interaction contribute to the creation of culture.

Chris Frith closed the Assembly with his Lecture on „How the Brain creates Culture". Photo: Markus Scholz

In his closing address, Prof. Frank Rösler ML (Hamburg) said that the mind, brain, genome and society are not opposing entities: recent research shows that it is virtually impossible to separate the four areas. (mik/jk)

More information is available at http://www.leopoldina.org/en/events/event/event/2082/

The Leopoldina honours outstanding researchers

Eleven researchers receive awards for excellent achievements / Two honorary sponsors announced

The Leopoldina honoured eleven researchers and announced two honorary sponsors at this year's Annual Assembly.

Cothenius Medals for outstanding lifetime achievements in science went to enzyme researcher Prof. Gunter S. Fischer ML and neuroscientist Prof. Wolf Singer ML.

Prof. Stefan W. Hell ML and Prof. Giesela Rühl were each awarded a Carus Medal for important scientific achievements. Hell developed the first microscopic method that uses focused light to achieve resolutions far below the wavelength of light, while Rühl concentrates on the challenges to the legal system that arise from globalisation and European integration.

This year, the Schleiden Medal for significant findings in the field of cell biology was awarded to Prof. Ingrid Grummt ML.

The Mendel Medal for pioneering achievements in the fields of genetics and general or molecular biology went to Prof. Nicholas H. Barton, one of the world's leading scientists in the field of evolutionary population genetics.

Prof. Rudolf K. Thauer ML was awarded the Medal of Merit for exemplary contributions to the Leopoldina in recognition of his crucial role in restructuring the Leopoldina as a National Academy.

Prof. Regine Mühlfriedel and university lecturer Dr Stylianos Michalakis were honoured with the Thieme Award of the Leopoldina for Medicine, which they received for their work in the field of hereditary retinal diseases.

At the Annual Assembly the Leopoldina honoured two junior researchers. Dr Aline K. Zimmer, a young space researcher, was awarded the Leopoldina Prize for Junior Scientists.

This year's Georg Uschmann Award for the History of Science went to Dr Elisabeth Rinner for her science-history dissertation on Claudius Ptolemy's Geography.

During the assembly, Dr Horst Dietz, chairman of the Leopoldina Academy Circle Of Friends, and Dagmar Szabados, former mayor of Halle, were named as honorary sponsors. (jk)

Nobel prize laureate Prof. Daniel Kahneman gave the evening lecture „Thinking, fast and slow". Photo: Markus Scholz

„Knowing is a subjective state"

Daniel Kahneman on the importance of trust and emotion in science

Nobel prize laureate Prof. Daniel Kahneman gave the evening lecture at this year's Annual Assembly, entitled „Thinking, Fast and Slow". Caroline Wichmann asked him about the importance of trust and emotion in science.

Why is it so difficult to be convinced by rational arguments only?
Kahneman: It's clear that people have convictions. People don't change their minds, especially on political and on religious things. So it's very much as if people *know* what's true, except that different people know different things and have different truths. So this is telling us something about what it means to "know". That is, you can know things that aren't the case – knowing is a subjective state. And on political and religious things, it's clear that the connection is primarily one of trust. There's a type of emotional coherence that happens very early in life: you become socialised, and there are people that you know and people that you trust, and they tell you what the world is like, and then you think you know that this is true. And this goes on through life!

Does that happen to you, too?
Kahneman: That's how I know about global warming. I trust the people who tell me there is global warming. So there is much more dependence on trust and emotion than on evidence. So we think that we believe in what we believe because of evidence, but we mostly believe in what we believe because we believe the people who tell us that. Trust is emotional.

Is this useful for people to trust in this emotional, coherent way?
Kahneman: We have absolutely no option. This is the way we are put together. Whether it's good or bad, that's the way it is.

Considering all the results of your research in the past decades, don't you sometimes have the impression that, "Oh my goodness, I am not that irrational, that can't be me!"
Kahneman: No, I don't have that impression. In the first place, I have never said that people are irrational or stupid – none of the above. We are built according to logic that is not exactly the logic of science or the logic of evidence, but there's nothing wildly irrational about it. We're talking about people having strong beliefs without enough evidence. That's not irrational.

But it does give rise to psychological effects. You are biased towards something and you don't even notice it. This might even open up space for manipulation.
Kahneman: It certainly does open up space for manipulation, and there is a lot of manipulation going on. But there is really no alternative. We're put together very well. So, the way I describe it, I speak of a "System 1" that is mostly in charge of what we do and that – almost always – works beautifully. Most of what we believe is actually true. But System 1 is very economical. It reaches conclusions very quickly, and it reaches conclusions in ways that are associative but not necessarily logical.

Now, science must be something completely different. It shouldn't be influenced by System 1…
Kahneman: That is the principle, yes.

But it isn't?
Kahneman: Well, mostly it is. There are very strong norms in science that beliefs should be backed up by evidence. But even among scientists there is a great deal of commitment. It's very rare actually for scientists to change their minds on important things. Which is why people say that the progress in science is when people die. Because new people are not committed to the same ideas.

You must have met hundreds of people who say, "No, I am a rational person. I am in control. I can think clearly." Is there anything to change their minds?
Kahneman: No, I don't believe they can change their mind. But I don't believe that they are right about their mind. All of us feel that we are much more reasonable than we really are.

“Major questions that concern us all”

Keynote speech by Onur Güntürkün: “How the brain creates the mind and how the mind shapes the brain”

“If I had taken a different path at a fork in the road, would I still be the same person?” Prof. Onur Güntürkün ML explored this question in his keynote speech at the Leopoldina’s 2013 Annual Assembly. Güntürkün, who coordinated the scientific organisation of the three-day event, described the forces that ultimately make us who we are and explained how the main influences – the mind, brain, genome and society – interact. “These are major questions that concern us all,” said the biopsychologist from Bochum in North Rhine-Westphalia.

He started by presenting a linear model: the genome forms the brain, the brain gives rise to the mind and the sum of individuals’ minds constitutes society.

In his keynote address, Onur Güntürkün explained how we become the people we are and what forces shape this process. Photo: Markus Scholz

But this concept does not go far enough. “In all of these processes, there is also movement in the opposite direction; these are reciprocal relationships,” Güntürkün said.

The biopsychologist cited compelling examples to show how maps of the body arise from genetic information and continue to exist even if the body takes on a completely different form, for example as the result of an accident. Conversely, as an example of how the mind affects the brain, he quoted an experiment in which a rubber hand was integrated into a body image. “There is an enormous amount of interaction. The brain has inherited a map from the genome. It persists with this map, but the mind can change the map. It can modify the structure of the brain.” In the second part of his talk, Güntürkün explored how memory works. Here too, he said, the brain turns out to be extremely malleable – to the extent that it is possible for people to regard events that have never occurred as genuine components of their biography, or for animals to be “inoculated” with specific memories in experiments. According to Güntürkün, research confirms the comment that the writer Max Frisch once made about memory: “Sooner or later everyone invents a story of himself which he comes to see as his life.” (mik)

Current trends in stem cell research

The Leopoldina and the Korean Academy of Science and Technology hold bilateral symposium in Seoul

“Current Trends in Stem Cell Research and Regenerative Medicine” was the title of the first bilateral symposium held by the Leopoldina and the Korean Academy of Science and Technology (KAST) on 14 and 15 October in Seoul. The event followed the signing of a cooperation agreement between the Leopoldina and KAST in May 2012 – one of the main points of which was the organisation of top-flight scientific conferences on issues of great relevance to society.

“The two academies are clearly upholding this part of the agreement with the first Leopoldina-KAST bilateral symposium,” agreed KAST President Prof. Sung Hyun Park and Leopoldina Vice President Prof. Bärbel Friedrich ML in their opening speeches at the symposium. Prof. Henning Beier ML (Aachen) and Prof. Il-Hoan Oh, Medical School of the Catholic University of Korea, who coordinated the preparations, organised high-profile researchers from both countries to speak at the symposium. The keynote speeches were given by Prof. Hans Schöler ML (Münster) and Prof. V. Narry Kim, Seoul National University. At each of the event’s eight sessions, a Korean and a German speaker presented the latest trends in his or her field of research and discussed future developments.

Just under 300 people attended the event, including many young researchers, who used the opportunity to talk to experienced German researchers during “meet the expert” sessions. It was not just junior scientists who benefited, however. The German and Korean scientists were unanimous in declaring that the event had provided “fascinating insights and promising contacts”. Prof. Martin Zenke (Aachen) from the German team organising the event summed it up by saying, “It all worked out perfectly.” (rn)

Leopoldina cooperates with Israeli academy

Cooperation agreement signed with the Israel Academy of Sciences and Humanities

The German National Academy of Sciences Leopoldina will work even more closely with the Israel Academy of Sciences and Humanities in the future.

As part of the joint symposium, Stability and Plasticity: Advances in Understanding Neuronal Representations, the President of Israel's national academy Prof. Ruth Arnon and Leopoldina President Prof. Jörg Hacker ML signed a cooperation agreement on 1 December in Jerusalem.

Signing of the agreement in Jerusalem. Photo: Jan Nissen

The Leopoldina has had a good relationship with Israel's national academy for many years. In 2008 and 2011, scientists from both academies met at joint symposia. In 2010, both Prof. Hacker and former Leopoldina President Prof. Volker ter Meulen ML were invited to attend the Israeli academy's 50th anniversary celebrations. The agreement that has now been signed between the Israel Academy of Sciences and Humanities and the Leopoldina will ensure more collaborative work on scientific statements, as well as the organisation of further joint conferences, seminars and colloquia. A particular aim is to include more young scientists from both countries in these activities. (jk)

Workshop on climate-change adaptation strategies

The Leopoldina cooperates with African science academies

On 11 and 12 October, representatives from the worlds of research and politics met at a workshop in the Cameroonian capital of Yaoundé to discuss possible strategies for adapting to climate change in Africa. Participants hailed from twelve African countries, as well as from Germany and Switzerland.

The workshop took place as part of the cooperation scheme between the Leopoldina and the Network of African Science Academies (NASAC) that is financed by the German Federal Ministry of Education and Research. The event formed part of a multi-stage process to produce a statement by the African academies with recommendations on adapting to climate change.

The Leopoldina delegation included, among others, Prof. Joachim Schellnhuber ML (Director of the Potsdam Institute for Climate Impact Research), Prof. Detlev Drenckhahn ML (President of WWF Germany) and Prof. Jutta Schnitzer-Ungefug (Leopoldina Secretary General).

From 10 to 12 November, the annual meeting of the African science academies took place in Addis Ababa, Ethiopia, on the topic of "Biotechnology for Africa's Development". The Leopoldina contributed to the programme: Prof. Ralph Bock ML (Director of the Max Planck Institute for Molecular Plant Physiology in Potsdam) presented the report "Planting the future", which was approved by the Leopoldina along with the national science academies of all EU member states under the umbrella of EASAC in June. (ak)

Lifelong learning for a culture of human rights

Fourth HRC symposium: Human Rights and Science / Evening lecture by Irena Lipowicz

On 12 and 13 September, the Leopoldina's Human Rights Committee (HRC) and the Polish Academy of Sciences held the fourth Human Rights and Science Symposium, which took place in Warsaw.

Prof. Karl Peter Fritzsche (Magdeburg), who coordinated the topic of human rights and education, explained how teaching people about human rights can contribute to a culture of human rights. He emphasised that education on human rights must begin as early as possible and continue through lifelong learning.

Prof. Christine Knaevelsrud of Freie Universität Berlin oversaw the coordination of the topic of human rights and new media. The lectures on this topic dealt with internet-based trauma treatment and freedom of speech on the internet and social networks.

A further highlight of the symposium was the evening lecture by Prof. Irena Lipowicz, Polish Ombudswoman for Human Rights, at the German embassy. The title of her speech was "Science and Scientists under Pressure – Polish Experience in the 20th Century". (jn)

The opportunities and limits of empiricism

Class IV symposium on empiricism in science / Lecture by Gebhard Kirchgässner

This year's Class IV symposium on 21 November explored the topic of empiricism in science. The event was co-chaired by Prof. Frank Rösler ML, secretary of Class IV, and Prof. Gereon Wolters ML, spokesperson of Class IV. Prof. Gebhard Kirchgässner ML gave the Leopoldina Lecture the preceding evening.

In the Leopoldina Lecture, which was held in the auditorium, Kirchgässner (St. Gallen) outlined how the social sciences deal with empiricism and used causal relationships as an example. Because controlled experiments are virtually impossible in this field, researchers depend on the analysis of field data such as time series data, cross-sectional data or panel data. However, the use of estimation techniques on such data does not necessarily allow researchers to derive valid statements about causal relationships from observable correlations. Kirchgässner explained that it is necessary to draw on additional information not contained in the analysed data in order to identify the causal direction.

The symposium the following day opened with a lecture by Prof. Wolfgang U. Eckart ML (Heidelberg) entitled "Medical historiography today: research, teaching and interdisciplinarity". The discipline of medical history was once used to legitimise medicine and as a tool for the socialisation of young doctors. Eckart now focused on critical source work as a basis for (medical) historical research. Theoretical assumptions, he said, fulfilled the function of heuristic tools. One of the benefits of medical history practised in this way is that it can provide a means of critically evaluating the position adopted by medicine itself.

New members of Class IV

The new members of Class IV were welcomed by President Prof. Jörg Hacker ML (fourth from the right) and Leopoldina Secretary General Prof. Jutta Schnitzer-Ungefug (left). Class IV admitted the following new members (from left to right): Prof. Wolfgang Lutz ML (Laxenburg/Austria), Prof. Markus Gangl ML (Frankfurt/Main), Prof. Jürgen Osterhammel ML (Konstanz), Prof. Reinhard Selten ML (Bonn), Prof. Barbara Stollberg-Rilinger ML (Münster), Prof. Stefan M. Maul ML (Heidelberg) and Prof. Bernhard Hommel ML (Leiden/Netherlands).

Photo: Markus Scholz

Klaus Fiedler described how empirically based research has flourished in behavioural science in recent decades. Photo: Markus Scholz

Prof. Michael Esfeld ML (Lausanne) spoke on the interplay between empiricism and rationalism in physics. In a historically broad review ranging from Democritus' atomism to quantum mechanics, Esfeld developed an alternative to both the neo-positivist philosophy of science and neo-rationalist metaphysics. While the former attempts to derive knowledge of nature in a positivist manner from the formalisms of scientific theories, the latter seeks to obtain such knowledge a priori, that is, without recourse to experience. According to Esfeld, both positions miss the point and must be superseded by a natural philosophy that teaches both empiricism and reflection and in which ontology and mathematical formalism are combined.

Important as the empirical basis is for science, focusing exclusively on it can give rise to problems. In his lecture, "The search for theory – at the end of an era of hunters and gatherers in empiricism", Prof. Klaus Fiedler ML (Heidelberg) described how empirically based research has flourished in behavioural science in recent decades. This has been made possible by new tools and methods such as eye-movement analysis and imaging techniques. However, the construction of theory has been neglected in this passion for hunting down and gathering data. Fielder expressly called for the development of robust theories in order to embed the empirical data and make it possible to draw valid conclusions from the mass of data sets.

In literary studies, too, empiricism is relevant both as a topic and a method. Taking as examples Thomas Mann's novels Confessions of Felix Krull, Confidence Man: The Early Years and The Magic Mountain, Prof. Andreas Kablitz ML (Cologne) summarised the relationship between interpretation and empiricism in literary studies. He emphasised that literary interpretations are by no means arbitrary: they must be linked to observable text information and capable of being judged in terms of adequate coherence. Empiricism is thus a fixed component of hermeneutics as the theory and art of interpreting literary texts, Kablitz explained. (cbr)

Jörg Hacker to advise the UN Secretary-General

Scientific Advisory Board set up / Focus on sustainability of our society's development

Leopoldina President Prof. Jörg Hacker ML has been appointed to the UN Secretary-General Ban Ki-moon's new Scientific Advisory Board. The 26 members are to serve as a source for advice on science, research and technology. The issues of the sustainability of our society's development and the eradication of poverty play a central role in the consultations.

The main function of the Board is to bring its expertise to bear on issues of research and development that fall within the purview of the organization. Social and ethical aspects will also be given due regard in the deliberations. In performing this function, the Board will strengthen the connection between science and policy, set priorities for scientific research on sustainable development, provide advice on current issues, as well as identify knowledge gaps and specific assessment needs. The members of the board will serve in their capacity as an individual pro bono for two years.

"Being afforded the opportunity to be part of such an important committee represents a singular challenge. I am looking forward to making my contribution to the UN Secretary-General's Scientific Advisory Board," said Hacker. (rg)

Events

December

10 DECEMBER, FROM 4:30 P.M.
LEOPOLDINA CHRISTMAS LECTURE: Lecture by Prof. Klaus Töpfer: "Hans Carl von Carlowitz 'Sylvicultura oeconomica' – 300 Jahre Nachhaltigkeit".
Leopoldina, Banquet Room, Jägerberg 1, 06108 Halle (Saale), Germany

12 DECEMBER, FROM 6:30 P.M.
LEOPOLDINA LECTURE SERIES: "Staatsschulden in der Demokratie: Ursachen, Wirkungen und Grenzen". A joint series of lectures organised by the work group of the same name from the Berlin Brandenburg Academy of Sciences and the Humanities, acatech – the National Academy of Science and Engineering, the Junge Akademie and the Leopoldina.
Berlin Brandenburg Academy of Sciences and the Humanities, Einstein Hall, Academy Building at the Gendarmenmarkt, Jägerstraße 22/23, 10117 Berlin, Germany
Next lecture in the series: 30 January, from 6:30 p.m., Berlin

January

22 JANUARY, FROM 7 P.M.
LEOPOLDINA LECTURE: "Personalisierte Medizin – zwischen begründeten Hoffnungen und gewagten Versprechen". Joint event by the Volkswagen Foundation and the Leopoldina.
Schloss Herrenhausen Conference Centre, Herrenhäuser Straße 5, 30419 Hannover, Germany

February

6 FEBRUARY, FROM 10 A.M.
LEOPOLDINA SYMPOSIUM: "Energiespeicher – Der fehlende Baustein der Energiewende?"
Leopoldina, Auditorium, Jägerberg 1, 06108 Halle (Saale), Germany
Scientific organisation: Prof. Robert Schlögl ML (Berlin)

28 FEBRUARY TO 1 MARCH
LEOPOLDINA SYMPOSIUM: "Postoperative kognitive Störung"
Langenbeck Virchow House, Luisenstraße 58/59, 10117 Berlin, Germany

People

Deceased members

David H. Hubel ML
27.2.1926 – 22.9.2013 Lincoln, US
Physiology and Pharmacology/Toxicology Section
David Hubel was a neurobiologist who published numerous papers on information processing in various central stations of the mammalian visual system. His research focused on the cerebral cortex and its function in the processing of visual stimuli. Along with Torsten Wiesel he discovered the division of the occipital lobe into strips and the function of these individual layers. He was awarded the Nobel Prize in Medicine for this work in 1981. The Leopoldina elected Hubel as a member in 1971.

Hugh Esmor Huxley ML
25.2.1924 – 25.7.2013 Woods Hole, US
Physiology and Pharmacology/Toxicology Section

Hugh Esmor Huxley, a biochemist, worked mainly on the structure of muscles and studied myosin and actin molecules in muscles. The interaction between these two proteins provides the basis for physical movement through the conversion of chemical energy into mechanical energy in the muscle cells. Huxley used X-rays in his work, thus gaining valuable insights. In honour of his achievements in this field, the Leopoldina made him a member in 1964.

Gerhard Krüger ML
9.7.1933 – 9.10.2013 Karlsruhe, Germany
Informatics Section
Gerhard Krüger worked in the field of computerised telecommunications. In 1982 he founded the Institute of Telematics in Karlsruhe, which was the first of its kind. He was closely involved in higher education policy, and as a pioneer in his field of information science he was responsible for introducing many innovations. He helped to develop the teaching of computer science at a number of German universities and had a significant influence on what was a new subject at the time. Krüger was elected as a member of the Leopoldina in 1995, joining the Informatics Section which he had been instrumental in founding.

Eugen Seibold ML
11.5.1918 – 24.10.2013 Kiel, Germany
Earth Sciences Section
Eugen Seibold conducted research on sedimentology, micropalaeontology (with Dr Ilse Seibold) and tectonics. He later turned his attention to marine geology and undertook a number of expeditions in the Indian and Atlantic oceans that explored the influence of the climate and sea-floor morphology on sedimentation. The "humid" Baltic and the "arid" Persian Gulf provided bases for comparison. With these research methods he made a valuable contribution to environmental research. The Leopoldina made him a member in 1971.

Annemarie Weber ML
1923 – 5.7.2012
Genetics/Molecular Biology and Cell Biology Section
Annemarie Weber was elected as a member of the Leopoldina in 1973 for her work in the field of biochemistry. She studied the metal calcium and its function in tissue and cells. She was the first person to provide complete evidence that calcium ions act as intracellular messengers. She also established that calcium in very low concentration is used to break down adenosine triphosphate (ATP) to produce energy in the contraction process.

Newly elected members, May 2013

Markus Aebi ML, Zurich/Switzerland, Professor of Mycology at the Institute of Microbiology at the Swiss Federal Institute of Technology in Zurich (Genetics/Molecular Biology and Cell Biology Section)

Ian T. Baldwin ML, Jena, Max Planck Institute for Chemical Ecology (Organismic and Evolutionary Biology Section)

Ralf Bartenschlager ML, Jena, Department of Infectiology, Molecular Virology division at Heidelberg University (Microbiology and Immunology Section)

Martin Biel ML, Munich, Department of Pharmacy at Ludwig-Maximilians-Universität in Munich (Physiology and Pharmacology/Toxicology Section)

Xuetao Cao ML, Shanghai/China, National Key Laboratory of Medical Immunology at the Second Military Medical University Shanghai (Microbiology and Immunology Section)

Gunther Hartmann ML, Bonn, Institute of Clinical Chemistry and Clinical Pharmacology at Universitätsklinikum Bonn (Microbiology and Immunology Section)

Christian Jung ML, Kiel, Institute of Crop Science and Plant Breeding at Christian-Albrechts-Universität zu Kiel (Agricultural and Nutritional Sciences Section)

John R. Krebs ML, Oxford, Principal at Jesus College Oxford (Organismic and Evolutionary Biology Section)

Jan Löwe ML, Cambridge/United Kingdom, MRC Laboratory of Molecular Biology (Biochemistry and Biophysics Section)

Matthias Mann ML, Martinsried, Max Planck Institute of Biochemistry (Biochemistry and Biophysics Section)

Rainer Matyssek ML, Munich, Chair of Ecophysiology of Plants at Technische Universität München (Organismic and Evolutionary Biology Section)

Jane Parker ML, Cologne, Department of Plant Microbe Interactions at the Max Planck Institute for Plant Breeding Research (Organismic and Evolutionary Biology Section)

Ingo Schubert ML, Gatersleben, Leibniz Institute of Plant Genetics and Crop Plant Research (Genetics/Molecular Biology and Cell Biology Section)

Johannes-Peter Stasch ML, Wuppertal, Chief Scientist at Bayer HealthCare (Physiology and Pharmacology/Toxicology Section)

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Abbreviations:
ML = Member of the Leopoldina