Dear members and friends of the Leopoldina,

The Leopoldina is dedicated to communicating the findings of its work to the general public. This issue contains articles on several events where we discussed our position on pre-implantation diagnosis and on predictive genetic diagnosis. The topic attracted a great deal of interest and sparked animated discussions. We will soon be continuing our work in making science and research publicly accessible and encouraging public debate at a new location. We celebrated the topping-out ceremony for the Leopoldina’s new headquarters in Halle on 18 May. From next year on the Leopoldina will be welcoming guests in the new main building. We are already in the process of planning a whole series of events that the public is invited to attend, including Leopoldina Lectures in which leading scientists will present their work. Some of the activities will take place as part of the German-Russian Year of Science 2011/12, which was launched at the end of May and to which the Leopoldina is particularly committed. You can find out more about the German-Russian Year of Science and about numerous other events in the current issue of “Leopoldina News”.

Kind regards,

Continued on page 2
The new main building of the German National Academy of Sciences Leopoldina in Halle

from the Federal Government’s second economic stimulus package. Earlier, the state of Saxony-Anhalt helped to purchase the building by contributing nearly €1 million in funds, also from the second economic stimulus package.

At the topping-out ceremony Prof. Dr. Jörg Hacker ML, President of the Leopoldina, emphasized that the new headquarters would be an international centre for science and social dialogue: “Once the renovation is completed, the Leopoldina will have an impressive main building in the centre of Halle. In addition to offering space for our steadily growing team, it will also provide room for scientific symposia, meetings and public events.”

In her speech, Cornelia Quennet-Thielen, State Secretary at the Federal Ministry of Education and Research, said: “The new location will provide the Leopoldina with a setting befitting its role as a national academy. We are using resources from the economic stimulus programme to create a place of academic, political and social dialogue with a high international profile.”

Dr. Andreas Scheuer, Parliamentary State Secretary at the Federal Ministry of Transport, Building and Urban Development, said: “I am delighted that the Leopoldina will soon have headquarters that reflect its significance and will bolster Halle’s reputation as a centre of culture and science. By renovating the building, we are also supporting and increasing public awareness of our architectural heritage. This is something we consider particularly important in a city like Halle, which has so many buildings of architectural and historical value.”

(mab)

3D views
This image gives an idea of what the Leopoldina’s new headquarters will look like when renovations are completed at the end of the year. The building will feature a ballroom for around 400 people, an auditorium that can seat around 180, and seminar rooms for events, symposia and lectures. The office spaces will accommodate the President, the Secretary General and Administration and Technical Services, the Departments of Policy Advice, the Department of International Relations, and the Department of Press and Public Relations.
News

Recommendations to the G8 Summit

The national science academies of the G8 states presented two statements to the participating governments in the run-up to the G8 Summit of Heads of State and Government in Deauville, France.

Volker ter Meulen was honoured for his service to the Leopoldina

The city of Halle bestowed its Cup of Honour on Prof. Dr. Volker ter Meulen ML in recognition of his dedication and commitment during the time he served as Leopoldina President from 2003 to 2010, which contributed substantially to raising Halle’s profile as the seat of Germany’s National Academy of Sciences, both nationally and internationally. In his laudation, Leopoldina Vice President Prof. Dr. Gunnar Berg ML described Professeur ter Meulen as an indefatigable and indispensible champion of the Academy’s interests who succeeded in “consolidating the Leopoldina’s position so that it could not be disregarded in the decision to found a German Academy of Sciences”.

Leopoldina submits recommendations for energy and research

Germany has been discussing the future of energy supply and issues of energy research for a long time now. Recent events in Fukushima have made these matters more relevant than ever and have sparked heated debates both in politics and society.

On 22 March 2011, Federal Chancellor Merkel appointed an Ethics Commission on a Safe Energy Supply. The purpose of the commission is to make responsible decisions on restructuring energy supply on the basis of comprehensive information and thus ensure sustainable development for Germany. On 30 May 2011 the commission submitted its main ideas and their practical consequences in a 48-page final report, entitled “Deutschlands Energie- wende – Ein Gemeinschaftswerk für die Zukunft” (“Germany’s Energy Transition: A Collective Endeavour for the Future”).

The goal is to initiate the changes – based on broad social consensus – necessary to secure a sustainable energy supply. The commission recommends a complete nuclear phase-out within a decade and describes the measures Germany will have to adopt to achieve this. Prof. Dr. Jörg Hacker ML, President of the Leopoldina, is among the 17 experts from different areas of society appointed to the ethics commission.

The report incorporated the Leopoldina statement “Energipolitische und forschungspolitische Empfehlungen nach den Ereignissen in Fukushima” (“Energy- and research-policy recommendations following the events in Fukushima”).

In response to the request issued on 21 March 2011 by Prof. Annette Schavan, the German Federal Minister of Education and Research, the Leopoldina set up a working group which compiled an ad-hoc statement in April/May 2011 under the leadership of Prof. Dr. Ferdi Schüth ML. The statement is based on the energy research programme that was presented in autumn 2009 and published by the Leopoldina in collaboration with the German Academy of Science and Engineering, and the Berlin-Brandenburg Academy of Sciences and Humanities (for the Union of the German Academies of Sciences and Humanities).

The Leopoldina statement focuses on energy research and contains twelve declarations that mainly address research-policy issues. It holds that from a technological and scientific perspective it is possible to phase out nuclear power within about ten years. The authors sketch out the framework conditions that Germany must comply with to achieve this. One of the conditions involves setting up a long-term, independent body to monitor the restructuring process. The statement also says that accelerating nuclear phase-out will not affect the country’s long-term energy-research goals. The authors consider it important for energy research to address a broad spectrum of topics over the long term. Research must also, they say, present society with additional options by covering everything from basic research to highly application-oriented work. The statement considers a number of measures in the electricity sector – particularly those designed to increase efficiency – to be important in the short term. It also highlights the international dimension of energy policy, since many plans in this area are made on a Europe-wide level.

The key declarations of the Academy’s 2009 energy research concept continue to apply, according to the statement. Thus, it says, holds true from a technical and scientific perspective as well as from a social-
International Issues

The Leopoldina is actively supporting the German-Russian Year of Science

Germany and Russia have steadily expanded the scope of their collaborati - on in science and research over the past two decades. To consolidate these ties, the Federal Minister of Education and Research, Prof. Dr. Annette Schavan, and her Russian counterpart, Andrei Fursenko, recently inaugurated the "German-Russian Year of Education, Science and Innovation 2011/2012". In accordance with the motto "Partnership of Ideas", leading science and research organisations, universities and compa - nies in Germany and Russia are holding joint events, symposia and workshops on important issues of the future. The Leopoldina is among the organisations actively involved in the bilateral year of science, which was launched in an official ceremony in Moscow on 23 May 2011.

The involvement of the Leopoldina in the German-Russian Year of Science:

Joint Conference on Infectious Diseases

The International "Joint Conference on Infectious Diseases" will be held in No - vosibirsk in June 2011 in cooperation with the Koch-Mechnikov Forum and the Russian Academy of Medical Sciences. In addition to enabling German and Russian scientists to exchange information and ideas on basic research in infection biology, the conference specifically aims to interest young scientists in becoming partners in future long-term bilateral projects in infection research. In a "Meet the Professor" session, young scientists will have the opportunity to meet and discuss with top researchers. The event also aims to draw attention to academic collaboration between the two countries in the spirit of scientific cooperation.

Leopoldina Lectures

A series of lectures has been scheduled featuring talks to be held in Moscow, Kalingrad, Berlin and Halle. In Kalingrad, Prof. Dr. Otfried Hölle ML will speak on Immansar Kant, and Prof. Dr. Dieter Bimberg ML will give a lecture on nanophysics in Moscow. Further events are currently being planned, with lec - tures focusing on the general themes of physics, nanosciences and the Enlighten - ment.

Promotion of junior scientists

The German National Academy of Sci - ences Leopoldina will also work with the Russian National Academy to pro - mote collaboration between outstanding young German and Russian researchers at the academy level.

“Berlin meets Moscow”

As topics of major importance for both Russia and Germany, health and the life sciences are a special focus of the Ger - man-Russian Year of Science 2011. As part of the World Health Summit 2011, the Leopoldina is organizing the sympo - sium "Berlin meets Moscow" in the Rep - resentation of the State of Saxony-An - halt in Berlin on 24 October. Participants in the symposium will examine strate - gies, share experiences and explore syn - ergies in the fields of the health sciences, healthcare and the healthcare industry.

Further information on the Year of Science is available at: www.deutsch - russisches-wissenschaftsjahr.de

Marina Koch-Krumrei heads Department of International Relations

Internationally experienced lawyer Dr. Marina Koch-Krumrei has joined the team of department heads at the Leo - poldina. Since taking up her position as head of the Department of International Relations on 1 April this year, she has been developing concepts and approa - ches to advance the Leopoldina’s work within the network of internationally active academies and international com - mittees. She gained many years of experi - ence in this area at the German Research Foundation (DFG). Born in 1959, Marina Koch-Krumrei studied Law at LMU Mu - nich and passed both German state law examinations. She went on to receive a doctorate for her dissertation on the co - pyright protection of academic works in Germany and France at the Max Planck Institute for Foreign and International Patent, Copyright and Competition Law in Munich. After a stay abroad in Colum - bia, Koch-Krumrei began working for the German Research Foundation (DFG) in 1991. She lived and worked in Hong Kong and Moscow from 1995 to 1999 before going on to head the DFG’s Berlin office. She held this position until leaving for Washington to set up the DFG’s liaison office there in 2003, which she headed until 2006. When she returned to Ger - many, she worked as Head of the Berlin DFG office before accepting her current position as department head at the Ger - man National Academy of Sciences Leo - poldina.

Workshop on transgenic plants concludes the successful German-Brazilian Year of Science

The importance of transgenic agricul - tural plants for the world’s food supply and for the production of biomolecules was the topic of a workshop in Hanover on 4 and 5 April 2011, which marked the of - ficial end of the German-Brazilian Year of Science, Technology and Innovation. The bilateral workshop was organized by the Leopoldina in collaboration with the German Research Foundation (DFG) and the Brazilian Federal Agency for the Support and Evaluation of Grad - uate Education (CAPES).

During the two-day event, representati - ves of the Federal Ministry of Education and Research (BMBF), the Brazilian Na - tional Council for Scientific and Techno - logical Development (CNPq), the DFG, the Leopoldina and CAPES met with leading German and Brazilian scientists in this field. All official representatives emphasized the long history of German- Brazilian cooperation and underlined the importance of transgenic plants – a term that includes both genetically engineered plants and plants produced using geneti - cally modified organisms – for the food industry, and increasingly, in the culti - vation of energy crops, as well. Glaucescu Oliva, President of Brazil’s National Sci - ence Council, stressed that “producing food and supplying energy” were among “the biggest challenges facing us in the future”.

The cultivation and export of crops is a major pillar of the Brazilian economy, and the country is increasingly turning to biotechnological methods to meet its production needs. Although research in this field is more strictly regulated in Eu - rope, plant biotechnology is a major fo - cus of science in Germany as well.

Workshop participants exchanged detailed information on the current state of research, discussing issues relating to basic research – such as how networks of genes can regulate internal cell processes and the effects of high temperatures on barley seed vessels – as well as issues re - lating to the direct application of biotech - nological methods, e.g. in the cultivation of crops such as sugar beets, sugarcane and citrus fruit. Discussions also focused on the opportunities and challenges in - volved in biotechnology research on in - creasing crop yields, pest control and po - tential medical applications.

There was consensus among work - shop participants that the bilateral Year of Science had given fresh impetus to the long-standing, successful cooperation between German and Brazilian scientists working in the field of plant biotecnolo - ghy. They agreed to formulate future to - pics and a joint strategy for further bilat - eral projects.

The BMBF's German-Brazilian Year of Science 2010/11 was conceived with the aim of raising the profile of the scien - tific cooperation between the two coun - tries and providing new momentum for their collaboration in the fields of science and technology.

EASAC presents report on infectious diseases

"Infectious diseases create 10% of the burden of disease in Europe. They con - tinue to represent a major and serious challenge and we remain vulnerable to future global threats. To tackle this chal - lenge, Europe needs to create new effec - tive partnerships for health between sci - ence, industry and policy-makers. These words were spoken by Prof. Dr. Volker ter Meulen ML, chairman of the Biosciences Steering Panel of the European Acade - mies Science Advisory Council (EASAC), on the occasion of the publication of the EASAC report “European Public Health and Innovation Policy for Infectious Di - sease: The View from EASAC” on World Health Day on 7 April of this year. The report provides an overview of the scope of action available to EU po - licy-making institutions to counter the growing threat posed by the spread of infectious diseases. The report includes recommendations on the following issu - es: the rise of antibiotic resistance; the emergence of new zoonoses (infectious diseases that can be transmitted from animals to humans); the resurgence of infectious diseases once thought to be under control, such as tuberculosis; and the threat of bioterrorism.

For further information and for the full report see: www.easac.eu
New and old tropical infectious diseases

Joint conference of the Leopoldina and the Ghana Academy of Arts and Sciences in Kumasi on tropical medicine and the challenges of the future / by Prof. Dr. Bernhard Fleischer ML

At a conference jointly held by Leopoldina and the Ghana Academy of Arts and Sciences in Kumasi, Ghana, the academic societies discussed the latest research findings and new approaches to combating major infectious diseases in the tropics. The conference also received support from the German Research Foundation DFG and was held in Kumasi, the second-largest city in Ghana and home of the renowned Kwame Nkrumah University of Science and Technology, on 21 and 22 March. Those attending included members of the Executive Council of the Ghana Academy and C.K. Bentum, the former Leopoldina President Prof. Dr. Volker ter Meulen ML and the Secretary General of the Leopoldina, Prof. Dr. Jutta Schnitzler-Ungeheuer. The conference was organized by the Bernhard Nocht Institute for Tropical Medicine (BNI) in Hamburg and the Kumasi Centre for Collaborative Research (KCCR), the joint research institute of Kwame Nkrumah University and the BNI.

Infectious diseases are still the major cause of mortality and morbidity in the tropics, and particularly in Sub-Saharan Africa. Children below the age of five, adults, and both acute and undetected chronic infections can severely if not irreversibly stunt their development (Stephan Erhardt, Hamburg). In his introduction, the Chair Director of the Ghanaian Ministry of Health (Sylvestor Anemana, Accra/Ghana) emphasized the importance of research, but added that the ministry has no means of funding research projects and only very limited resources for implementing control measures. Although significant progress has been made in combating malaria, it remains one of the world’s most devastating infectious diseases. Approximately 3.3 billion people – half of the world’s population – live in regions where malaria is endemic. Each year there are 250 million cases of malaria worldwide, and the disease kills almost one million people annually, virtually all of them children and small children. Malaria is also one of the greatest problems facing the healthcare system in Ghana (Ed Browne, Kumasi/Ghana), where it accounts for 30 to 40 percent of all out-patient treatments and is responsible for 61 percent of all hospitalisations of children under five.

The complex life cycle of the plasmodium parasite, involving liver and blood stages in the human host and sexual reproduction in the mosquito, offers several different targets for vaccines. Since clinical immunity to malaria has been well-documented in adults living in malaria endemic areas, immunisation with antigens (i.e. molecules derived from the parasite) in the blood phase offers a promising approach. Benjamin Mordmüller (Tübingen) reported on the vaccine field of trypanosoma in patients. Interventions currently under trial in Gabun. Vaccines targeting the liver stage are currently being tested in several large-scale projects. Eleven centres in seven African countries, including the KCCR, are currently conducting trials of the RTS,S vaccine involving almost 16,000 children in total, which are being funded by GlaxoSmithKline and the Malaria Vaccine Initiative (Tuiri Aghenyega, Kumasi). The results so far – 35 percent fewer cases of malaria among children who received the vaccine – indicate that this strategy is successful.

Our understanding of the pathophysiology of severe malaria remains incomplete. We need to clearly define various clinical manifestations of the disease such as severe malaria with and without CNS involvement and isolated severe anaemia. Rolf Horstmann (Hamburg) reported that different forms of malaria are associated with different outcomes among patients. Interventions currently applied to control malaria include providing fast and effective treatment, using mosquito nets and indoor residual spraying of insecticides. The field of epidemiology also provides valuable insights that can translate into promising approaches for malaria control (Jürgen May, Hamburg). Julius Fobil (Accra) reported that nearly all patients are colonised or infected with the liver phase tested in trials with the Chironolaemia. Schistosomiasis (Kumasi) reported on a new oral antischistosomal drug (Avila-Dabo, Kamisi) and the increase number of coinfections with HIV, which are estimated at one million per year (Yaw Adu-Sarkodie, Kumasi). Immunological research has identified new prognostic biomarkers, e.g. presence of certain particular multifunctional T cells, which enable a distinction to be made between latent and active infection (Marc Jacobsen, Hamburg).

Buruli ulcer is another serious infectious disease that is on the rise in many parts of Africa. It causes necrotising lesions to develop in the skin and occasionally in adjacent bone that, if left untreated, can lead to deformities, in some cases necessitating amputation. Although the genome of the pathogen causing Buruli ulcer, Mycobacterium ul- cerans, has been sequenced, scientists know almost nothing about its natural reservoir and how it is transmitted (Edwin Ampadu, Accra). Richard Phillips (Kumasi) reported on a new oral antibiotic treatment with rifampicin and clari-thromycin, a significant improvement over current treatment with injections of the antibiotic streptomycin, which frequently required hospitalisation for several weeks. Thomas Junghans (Heidelberg) introduced a new approach to treatment that takes advantage of the mi-crobe’s sensitivity to heat: if hot packs are applied to the affected areas, even ex- tensive skin lesions can heal within several weeks.

Bacterial meningitis is a major health problem in Sub-Saharan Africa, with the northern zones of the countries south of the Sahara – the region known as the “Meningitis Belt” – carrying the heaviest disease burden. In this region, se- vere meningitis epidemics have occurred roughly every eight to twelve years over the past century. Ali Sié (Nouma/Burki-na Faso) reported that newly introduced virulent clones of Neisseria meningitidis colonise the throat of individuals in the region, resulting in epidemics in the dry season, when mucous membra- nes dry out. The situation in Sub-Saha- ran Africa differs from that in Europe, where the population is largely colonised by non-virulent meningococci, which results in partial protection. Research on the molecular epidemiology of the bacte- ria present in the population has allowed scientists to predict epidemics.

The vaccine works by stimulating the body’s immune system to produce antibodies that can fight the disease. The vaccine is given as an injection and usually requires booster doses.

In 2011, Leopoldina has established the new Class Symposium series. Class 1, which includes Mathematics, Natural and Engineering Sciences, launched the series on 15 March with the symposium organized by Prof. Dr. Wolf Dieter Blümel ML entitled “Zukunftsfragen – Zur Stabilität komplexer Systeme und zur Bewältigung vorhersehbarer Risiken (Questions of the future – on the stability of complex systems and managing foreseeable risks”).

More than 60 participants discussed a wide range of topics from climate disasters of the past, through airplane designs of the future, to researching security conflicts. The interdisciplinary nature of the event encouraged participants to engage in animated discussions above and beyond their own fields, which revealed some new and unexpected interconnec- tions. The botanists present, for example, were very interested in the statistical analysis of star, landslide and tree patterns presented by Prof. Dr. Dietrich Störy. They hope that application of his methods will reveal insights into possible patterns of wheat plants in fields. Precise analysis of individual plants could lead to a better understanding of resource avail- ability and competition.

In the evening, Prof. Dr. Herbert Palme ML from the Senckenberg Research Institute in Frankfurt addressed an over- crowded lecture hall. His lecture on “Einschlä- ge großer Meteorite auf Erde” (“The impacts of large meteors on Earth”) covered extensively researched impacts such as the Barringer Crater in Arizona, as well as mysterious phenomena such as the Tunguska event in Siberia for which the re- is still no clear explanation to this day. He closed the lecture with the reassuring news that in all probability there will not be a large meteorite impact on Earth in the next 100 years.

The new Class symposia, Academy members, who are all leading scientists in their respective fields, present their research work on a wide range of topics. The symposia are targeted at scientific and students as well as members of the public interested in science. It is also a new forum of exchange between Leopol-dina and regional scientific institutes. The Class II symposium (Biology and Life Sciences) “From molecules to functions” took place on 24 May in Halle. A report on this symposium will be included in the next issue of “Leopoldina news”.

Complex systems and foreseeable risks

A new series of symposia hosted by the Leopoldina Classes was launched in March 2011.

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Conference Reports
# Inside the Leopoldina

## Senators and Spokespersons of the Leopoldina after the elections 2010/2011

### Section 1 – Mathematics
Spokesperson and Senator: Prof. Dr. Gisbert Wüstholz, Zurich
Subsection 1.1 – Algebra
Spokesperson and Senator: Prof. Dr. Bernt Krebs, Münster
Subsection 1.2 – Analysis
Spokesperson and Senator: N.N.
Subsection 1.3 – Geometry
Spokesperson and Senator: Prof. Dr. Thomas Henning, Heidelberg
Subsection 1.4 – Approximation Theory
Spokesperson and Senator: Prof. Dr. Wolfgang Hackbusch, Leipzig

### Section 2 – Informatics
Spokesperson and Senator: Prof. Dr. Thomas Lengauer, Saarbrücken
Subsection 2.1 – Computer Science
Spokesperson and Senator: Prof. Dr. Wolfgang Hackbusch, Leipzig
Subsection 2.2 – Computer Engineering
Spokesperson and Senator: Prof. Dr. Bernd Herrmann, Göttingen

### Section 3 – Physics
Subsection 3.1 – Experimental Physics
Spokesperson and Senator: Prof. Dr. Paul Leiderer, Konstanz
Subsection 3.2 – Theoretical Physics
Spokesperson and Senator: Prof. Dr. Martin Quack, Zurich
Subsection 3.3 – Astrophysics/Astronomy
Spokesperson and Senator: Prof. Dr. Thomas Henning, Heidelberg

### Section 4 – Chemistry
Subsection 4.1 – Inorganic Chemistry
Spokesperson and Senator: Prof. Dr. Manfred Broy, Garching
Subsection 4.2 – Physical Chemistry
Spokesperson and Senator: Prof. Dr. Thomas Lengauer, Saarbrücken
Subsection 4.3 – Organic Chemistry
Spokesperson and Senator: Prof. Dr. Wolfgang Franke, Frankfurt

### Section 5 – Earth Sciences
Subsection 5.1 – Geography
Spokesperson and Senator: Prof. Dr. Wolf Dieter Blümel, Stuttgart
Subsection 5.2 – Geology/Mineralogy/Crystallography
Spokesperson: Prof. Dr. Wolfgang Franke, Frankfurt

### Section 6 – Agricultural and Nutritional Sciences
Spokesperson and Senator: Prof. Dr. Manfred Broy, Garching
Subsection 6.1 – Plant Sciences
Spokesperson and Senator: Prof. Dr. Horst Bleckmann, Bonn
Subsection 6.2 – Animal Sciences
Spokesperson and Senator: Prof. Dr. Hans Konrad Müller-Hermelink, Würzburg

### Section 7 – Ecological Sciences
(restart due to restructuring)
Subsection 7.1 – Ecology
Spokesperson and Senator: Prof. Dr. Horst Bleckmann, Bonn

### Section 8 – Organismic and Evolutionary Biology
Subsection 8.1 – Zoology
Spokesperson and Senator: Prof. Dr. Karl-Heinz Gläßner, Braunschweig
Subsection 8.2 – Botany
Spokesperson and Senator: Prof. Dr. Horst Bleckmann, Bonn

### Section 9 – Genetics/Molecular Biology and Cell Biology
Subsection 9.1 – Genetics/Molecular Biology
Spokesperson and Senator: Prof. Dr. Lothar Willmitzer, Potsdam
Subsection 9.2 – Cell Biology
Spokesperson and Senator: Prof. Dr. Bernd Herrmann, Göttingen

### Section 10 – Biochemistry and Biophysics
Subsection 10.1 – Biochemistry
Spokesperson and Senator: Prof. Dr. Alfred Wittinghofer, Dortmund
Subsection 10.2 – Biophysics
Spokesperson and Senator: Prof. Dr. Franz-Xaver Schmid, Bayreuth

### Section 11 – Anatomy and Anthropology
Spokesperson and Senator: Prof. Dr. Bernd Herrmann, Göttingen

### Section 12 – Pathology and Forensic Medicine
Subsection 12.1 – Pathology
Spokesperson and Senator: Prof. Dr. Hans Konrad Müller-Hermelink, Würzburg
Subsection 12.2 – Forensic Medicine
Spokesperson and Senator: Prof. Dr. Wolfgang Eisenmenger, Munich

### Section 13 – Microbiology and Immunology
Subsection 13.1 – Microbiology
Spokesperson and Senator: Prof. Dr. Michael Hecker, Greifswald
Subsection 13.2 – Immunology
Spokesperson and Senator: Prof. Dr. Hermann Wagner, Munich

### Section 14 – Human Genetics and Molecular Medicine
Subsection 14.1 – Human Genetics
Spokesperson and Senator: Prof. Dr. Claus R. Bartram, Heidelberg
Subsection 14.2 – Molecular Medicine
Spokesperson and Senator: Prof. Dr. Oliver Brüstle, Bonn

### Section 15 – Physiology and Pharmacology/Toxicology
Subsection 15.1 – Physiology
Spokesperson and Senator: Prof. Dr. Irene Schulz-Hofer, Konstanz
Subsection 15.2 – Pharmacology/Toxicology
Spokesperson and Senator: Prof. Dr. Franz Hofmann, Munich

### Section 16 – Internal Medicine and Dermatology
Subsection 16.1 – Internal Medicine
Spokesperson and Senator: Prof. Dr. Joachim R. Kalden, Erlangen
Subsection 16.2 – Dermatology
Spokesperson and Senator: Prof. Dr. Thomas Krieg, Cologne

### Section 17 – Surgery, Orthopaedics, Anaesthesiology
Subsection 17.1 – Surgery
Spokesperson and Senator: Prof. Dr. J. Rüdiger Siewert, Heidelberg
Subsection 17.2 – Orthopaedics
Spokesperson: Prof. Dr. Dieter Kohn, Homburg (Saar)
Subsection 17.3 – Anaesthesiology
Spokesperson and Senator: Prof. Dr. Jochen Schulte am Esch, Hamburg

### Section 18 – Gynaecology and Paediatrics
Subsection 18.1 – Gynaecology
Spokesperson and Senator: Prof. Dr. Walter Jonat, Kiel
Subsection 18.2 – Paediatrics
Spokesperson and Senator: Prof. Dr. Matthias Brandis, Freiburg (Br.)

### Section 19 – Neurosciences
Subsection 19.1 – Neurology
Spokesperson and Senator: Prof. Dr. Michael Frottech, Freiburg (Br.)
Subsection 19.2 – Psychiatry
Spokesperson and Senator: Prof. Dr. Peter Falkai, Göttingen

### Section 20 – Ophthalmology, Oto-Rhino-Laryngology and Stomatology
Subsection 20.1 – Ophthalmology
Spokesperson and Senator: Prof. Dr. Rudolf Guthoff, Rostock
Subsection 20.2 – Oto-Rhino-Laryngology
Spokesperson and Senator: Prof. Dr. Barbara Wollenberg, Lübeck
Subsection 20.3 – Stomatology
Spokesperson and Senator: Prof. Dr. Gottfried Schmalz, Regensburg

### Section 21 – Radiology
Spokesperson and Senator: Prof. Dr. Karl-Jürgen Wolf, Berlin
Subsection 21.1 – Radiology
Spokesperson and Senator: Prof. Dr. Wolfram H. Knapp, Hanover

### Section 22 – Veterinary Medicine
Spokesperson and Senator: Prof. Dr. Hartwig Bostedt, Gießen
Subsection 22.1 – Veterinary Medicine
Spokesperson: Prof. Dr. Wolfgang Hackbusch, Leipzig

### Section 23 – History of Science and Medicine
Spokesperson and Senator: Prof. Dr. Alfons Lübich, Düsseldorf
Subsection 23.1 – History of Science and Medicine
Spokesperson and Senator: Prof. Dr. Alfons Lübich, Düsseldorf

### Section 24 – Epistemology
Spokesperson and Senator: Prof. Dr. Martin Carrier, Bielefeld

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Section 25 – Economics and Empirical Social Sciences
Spokesperson and Senator: Prof. Dr. Andreas Diekmann, Zurich
Vice-Senator: Prof. Dr. Regina Riphahn, Nuremberg

Section 26 – Psychology and Cognitive Sciences
Spokesperson and Senator: Prof. Dr. Omer Gunturkun, Bochum
Vice-Senator: Prof. Dr. Klaus Fiedler, Heidelberg

Section 27 – Engineering Sciences
Spokesperson and Senator: Prof. Dr. Peter Gumbisch, Freiburg (Br.)
Vice-Senator: Prof. Dr. Ellen Ivers-Tiffée, Karlsruhe

Section 28 – Cultural Sciences
Spokesperson and Senator: Prof. Dr. Ottofried Höffe, Tübingen
Vice-Senator: Prof. Dr. Jürgen Baumert, Berlin

Austria
Adjunct and Senator: Prof. Dr. Wolfgang Baumn Johann, Graz

Switzerland
Adjunct and Senator: Prof. Dr. Rüdiger Wehner, Zurich
Vice-Senator: Prof. Dr. Martin Schwab, Zurich

Section 29 – Life Sciences
Spokesperson and Senator: Prof. Dr. Martin Schwab, Zurich
Vice-Senator: Prof. Dr. Rüdiger Wehner, Zurich

In 2010 scientists could have been totally unthinkable just twenty years ago. The Leopoldina would like to treat and discuss this fundamental issue at its 2011 Annual Assembly.

This includes issues such as the creation of artificial life using methods from synthetic biology; the question of what is specific to human life; the issue of stem cells and their application in basic research and practical medicine, other concepts from modern medicine (genomics, individualised medicine, etc.) used to maintain life, and the problem of how to differentiate between organisms and computer systems which are able to learn. Questions about the development of life, with reference to evolutionary theory, will also play a role at the Annual Assembly.

This year’s Annual Assembly takes place at DORMERO Kongress- und Kulturzentrum, Frankestraße 1, 06110 Halle (Saale), Germany, from 23 September to 25 September 2011.

The complete programme (pdf) can be downloaded at: www.leopoldina.org

Leopoldina’s Annual Assembly: “What is life?”, 23 to 25 September 2011

June
13 to 15 June
2.00 p.m.
LEOPOLDINA SYMPOSIUM: „GROWTH AND DEFENCE IN PLANTS: RESOURCE ALLOCATION AT MULTIPLE SCALES“
Bildungszentrum Kardinal-Döpfner-Haus, Domburg 27, 83534 Freising, Germany
Scientific organization: Ulrich Lüttge ML (Darmstadt/Germany), Rainer Matyssek ML (Freising/Germany), Heinz Rennenberg ML (Freiburg/Br., Germany)

20 to 22 June
9.00 a.m.
FOURTH WEISSENBURG SYMPOSIUM: “EPIGENETICS AND THE CONTROL OF GENE EXPRESSION”
Kulturzentrum Karmelliterkirche, Luitpoldstraße 9-11, 97818 Würzburg, Germany
Scientific organization: Walter Doerfler ML (Erlangen/Germany), Bernhard Fieckenstein ML (Erlangen/Germany), Ulf Pettersson (Uppsala/Sweden)

July
1 July
6.00 p.m.
LEOPOLDINA-NACHT 2011/LEOPOLDINA NIGHT 2011: LONG NIGHT OF SCIENCES
Leopoldina, garden entrance, August-Bebel-Straße 50 a, 60108 Halle (Saale)

4 to 6 July
10.00 a.m.
LEOPOLDINA SYMPOSIUM: „GROWTH AND DEFENCE IN PLANTS: RESOURCE ALLOCATION AT MULTIPLE SCALES“
Bildungszentrum Kardinal-Döpfner-Haus, Domburg 27, 83534 Freising, Germany
Scientific organization: Ulrich Lüttge ML (Darmstadt/Germany), Rainer Matyssek ML (Freising/Germany), Heinz Rennenberg ML (Freiburg/Br., Germany)

18 to 21 July
8.30 a.m.
5TH INTERNATIONAL CONFERENCE: „GMP GENERATORS, EFFECTORS, AND THERAPEUTIC IMPLICATIONS“
Martin-Luther-Universität Halle-Wittenberg, Wolfgang-Lange-Beck-Straße 4, 06120 Halle (Saale), Germany
Scientific organization: Franz Hofmann ML (Munich/Germany), Reinhard Neubert (Halle/Germany)

24 to 26 July
9.00 a.m.
4TH INTERNATIONAL POSTER: „FLOW SENSING IN AIR AND WATER“
Poppeldorfer Schloss, Meckenheimer Allee 171, 53115 Bonn, Germany
Scientific organization: Horst Bleckmann ML (Bonn/Germany)

20 to 22 July
1.00 p.m.
LEOPOLDINA SYMPOSIUM: „REGENERATIVE MEDICINE“
Eberhard-Karls-Universität Tübingen, Hearing Research Center, Elfriede-Aulhorn-Strasse 5, 72076 Tübingen, Germany
Scientific organization: Hans-Peter Zenner ML (Tübingen/Germany), Johannes Schubert ML (Halle/Germany) and Gernot Duncker ML (Halle/Germany)

26 to 28 August
10.00 a.m.
LEOPOLDINA SYMPOSIUM: „DIABETES MELLITUS AND DIABETIC RETINOPATHY IN CHINA AND GERMANY. PREVALENCE, RISK FACTORS, DIAGNOSIS AND THERAPY: LESSONS FOR THE FUTURE?“
The Sino-German Center for Research Promotion in Beijing of Deutsche Forschungsgemeinschaft, Beijing, China
Scientific organization: Prof. Dr. Jost Jonas ML (Heidelberg/Germany)

August
26 to 28 August
10.00 a.m.
LEOPOLDINA SYMPOSIUM: „THE LEGACY OF SIR JOHN ECCLES“
Nordrhein-Westfälische Akademie der Wissenschaften und der Künste, Palmenstrasse 16, 40217 Düsseldorf, Germany
Scientific organization: Alfon Labisch ML (Düsseldorf/Germany)

9.00 a.m.
LEOPOLDINA SYMPOSIUM: „THE LEGACY OF SIR JOHN ECCLES“
Nordrhein-Westfälische Akademie der Wissenschaften und der Künste, Palmenstrasse 16, 40217 Düsseldorf, Germany
Scientific organization: Alfon Labisch ML (Düsseldorf/Germany)

16 to 18 September
1.00 p.m.
LEOPOLDINA SYMPOSIUM: „PREVENTION AND INTERVENTION: FROM MOLECULAR BIOLOGY TO CLINICAL PERSPECTIVES“
Martin-Luther-University Halle-Wittenberg, Löwengebäude, Universitätsplatz 1, 06108 Halle (Saale), Germany
Scientific organization: Prof. Dr. Rolf Edgar Silber (Halle/Germany), Prof. Dr. Andreas Sippin (Halle/Germany), Prof. Dr. Ursula Werdan (Halle/Germany)
People

Deceased members

Prof. Dr. Emanuel Vogel ML
2 December 1927 – 31 March 2011 Ellitten, Chemistry Section
Vogel was admitted as a Member of the Leopoldina in 1957 for his work in the field of Organic Chemistry, which produced internationally acclaimed results. Throughout his experimental studies he substantially increased scientific knowledge on aromaticity.

Newly elected members of the Academy

Jörg Bendix, Marburg/Germany, Professor of Physical Geography, Climate Geography and Environmental Modelling at the Faculty of Geography, Philipps-Universität Marburg (Earth Sciences Section)

Kurt Binder, Mainz/Germany, Professor of Theoretical Physics at the Institute of Physics, Johannes Gutenberg University Mainz (Physics Section)

Immanuel Felix Bloch, Garching/Germany, Professor of Theoretical Physics at the Institute of Physics, Johannes Gutenberg University Mainz (Physics Section)

Holger Braunschweig, Würzburg/Germany, Professor of Inorganic Chemistry at the Institute for Inorganic Chemistry, University of Würzburg (Chemistry Section)

People

October

4 October
4:30 p.m.
SEMINAR ON THE HISTORY OF SCIENCE: PD Dr. Florian Steger: „Medizinischer Alltag in der Römischen Kaiserzeit“
Leopoldina, Emil-Abderhalden-Straße 36, 06108 Halle (Saale), Germany

25 November
10:30 a.m.
LEOPOLDINA SYMPOSIUM: „SEPHE 2011 - A TRANSLATIONAL APPROACH“
Max-Planck-Institut für molekulare Biomedizin, Küstengasse 20, 48149 Münster, Germany
Scientific organization: Dietmar Vestweber ML (Münster/Germany), Hugo Karel Van Aken ML (Münster/Germany)

November

7 November
EASAC ANNIVERSARY: 10TH ANNIVERSARY CELEBRATION OF THE EUROPEAN ACADEMIES SCIENCE ADVISORY COUNCIL (EASAC), PUBLICATION OF THE EASAC REPORT ON CONCENTRATED SOLAR POWER
Palais des Académies, Rue Ducale 1, 1000 Brüssel, Belgium

8 November
4:30 p.m.
Leopoldina, Emil-Abderhalden-Straße 36, 06108 Halle (Saale), Germany

December

6 December
4:30 p.m.
CHRISTMAS LECTURE: PROF. DR. HANS JOACHIM MEYER: „VOM SINN WISSENSCHAFTLICHER MEHRSPRACHIGKEIT“
Leopoldina, New Main Building, Lecture Hall, Jägerberg/Moritzburger Hof, 06108 Halle (Saale), Germany

Further information about all events can be found at www.leopoldina.org
Technische Universität München and Vice-President of the Technische Universität München (Earth Sciences Section)

William H. Miller, Berkeley/USA, Professor of Chemistry at the Department of Chemistry, University of California, Berkeley, USA (Chemistry Section)

Andreas Pfaltz, Basel/Switzerland, Professor of Chemistry at the Department of Chemistry, University of Basel, Switzerland (Chemistry Section)

Robert Schlögl, Berlin/Germany, Professor of Inorganic Chemistry and Director at the Fritz Haber Institute of the Max Planck Society, Berlin (Chemistry Section)

Tamar Seideman, Evanston/USA, Professor of Chemistry and Physics at the Department of Chemistry, Northwestern University, Evanston, USA (Chemistry Section)

Cynthia Volkert, Göttigen/Germany, Professor of Experimental Physics at the Institute for Material Physics, University of Göttingen (Engineering Sciences Section)

Wendelin Werner, Orsay/France, Professor of Mathematics, Paris-Sud University (Mathematics Section)

Roland Zengerle, Freiburg/Germany, Professor of MEMS Applications at the Institute for Microsystem Technology, University of Freiburg (Engineering Sciences Section)