



# Leopoldina

## news

Deutsche Akademie der Naturforscher Leopoldina –  
Nationale Akademie der Wissenschaften

Halle (Saale), 2 March 2011

01/2011

## Recommendations on preimplantation genetic diagnosis

**Ad-hoc statement by the Leopoldina favours allowing this diagnostic  
procedure subject to strict conditions**

*On 18 January the Leopoldina publicly issued and published an ad-hoc statement on preimplantation genetic diagnosis (PGD). This was done in conjunction with acatech – the German Academy of Science and Engineering, the Berlin-Brandenburg Academy of Science and Humanities (BBAW) and by the majority of the academies belonging to the Union of German Academies of Science. The underlying message of the statement: PGD is to be placed on an equal footing with prenatal diagnosis (PD) by lawmakers and access should be given in Germany under certain conditions to those women affected. This prevents having to terminate pregnancies where the embryo is severely affected by hereditary disease.*



*Title page of the Ad-hoc statement on PGD*

The statement entitled „Präimplantationsdiagnostik – Auswirkungen einer begrenzten Zulassung in Deutschland“ (an English version will be published this spring) covers not only medical and legal aspects, but also the ethical aspects of PGD as well. This comes in light of the current need for regulation, resulting from the decision made by the federal supreme court on 6 July 2010 that a ban on PGD cannot be derived from the embryo protection laws.

The 30-page report was presented on 18 January by the members of the PGD workgroup at a federal press conference

and information event in the German parliament in Berlin. Since then it has received a great deal of public response as part of the current debate. Parliamentarians want to finalize a law on regulating PGD before summer recess. Further statements, for instance from the German Ethics Council are expected shortly. PGD is a diagnostic procedure. It allows people carrying a diseased gene to become parents of a child not suffering from this severe hereditary disease.

▶ Continued on page 2

Dear members

and friends of the Leopoldina,

Preimplantation genetic diagnosis (PGD) is a topic that is currently being very strongly debated. Before summer recess, the Bundestag



wants to decide the nature of this legislation. In advance of this decision there is a great need for information on the complex, scientific, medical, ethical and legal relationship.

The Leopoldina has reacted in this matter and has produced a statement along with other German academies. This paper has not only fostered discussion on the topic of PGD, but also triggered discussion about whether science academies should give advice of policy and comment on ethical questions. This debate is important. As a National Academy of Science, the Leopoldina has taken on a new duty. It has been commissioned with advising on political and social matters based on scientific knowledge. This makes it more than just a society of scholars. Today, academies of science are a part of society more than ever and can assist in overcoming the challenges of the future. Their job is not only to present facts, but also to reflect on aspects of ethics. Because what would policy counseling be without advice?

Kind regards,

News	2
International Issues	6
Events	7
People	9
Publishing Details	10
Inside the Leopoldina	11

# News

[Continued from page 1]

To enable this, embryos conceived through in-vitro fertilization are tested for this disease before being implanted in the uterus. An example of a similar test in the field of prenatal diagnoses, i.e. examination of the embryo in the womb, is amniocentesis. As a result the pregnancy may be terminated due to medical indication. The statement by the Academies formulates in summary the following main recommendations. The text:

“Due to a similar conflict situation for the woman, PGD should be legally allowed under limited and defined conditions and the consequences associated with this for the embryo are to be placed by lawmakers on an equal footing with PD (prenatal diagnosis, GenDG) and pregnancy termination (Article 218 of the German Penal Code). This equal footing is to be restricted by only allowing in vitro PGD for non-totipotent cells of the embryo, whereby it is recommended that conditions be considerably restricted. Testing can only be done for couples whose children, from a medically objective point of view, are at high risk of an onset of a well-known, severe monogenic disease or a genetic chromosomal disorder, or if there is a risk of a stillbirth or a miscarriage. There should be no age limit for the onset of the disease. PGD may not be used for nationally or socially defined objectives that do not concern the well-being of the couple affected. A ban on selecting the genetic traits of children according to the wishes of their parents, determining the sex of the child with no relevance to genetic disease, using embryos for research purposes and investigating new, in other words, non-hereditary chromosomal disorders (aneuploidy screening) should continue to exist. Furthermore a competent authority should be set up to pass regulatory statutes or guidelines on how

PGD is to be conducted. PGD should only be allowed to be carried out at a handful of facilities that are designated for this purpose and regularly checked by the competent authority. PGD should only be allowed if authorized by the designated competent authority following a substantiated request. On top of a law governing PGD and a possible modification to the genetic diagnosis law, the passing of a reproduction medicine law should be considered.“

The statement was produced by an Academy group consisting of 13 renowned scientists of various fields: Prof. Dr. Claus R. Bartram ML (human geneticist, Heidelberg), Prof. Dr. Henning M. Beier ML, who is also a member of acatech, (embryology and reproduction biology, Aachen), Prof. Dr. Klaus Diedrich ML (gynecology and reproductive medicine physician, Lübeck), Prof. Dr. Philipp U. Heitz ML (Physician, member of the Leopoldina Steering Committee, Zurich), Prof. Dr. Hermann Hepp ML (gynecology and reproductive medicine physician, Munich), Prof. Dr. Otfried Höffe ML (legal and moral philosopher, Tübingen),

Prof. Dr. Christiane Nüsslein-Volhard ML, and member of the BBAW, (developmental biologist, Tübingen), Prof. Dr. Peter Propping ML (human geneticist, Bonn), Prof. Dr. Bettina Schöne-Seifert ML (medical ethicist, Münster), Prof. Dr. Jochen Taupitz ML (medical law specialist, Mannheim), Prof. Dr. Anna M. Wobus ML, also member of the BBAW, (cell biologist, Gatersleben), Prof. Dr. Rüdiger Wolfrum ML (legal scholar, Heidelberg) und Prof. Dr. Hans-Peter Zenner ML (physician, member of the Leopoldina Presidium, Tübingen) as leading moderator. (mab)

🔗 The complete statement explaining in detail the basis for and the impact of the recommendation can be found at [www.leopoldina.org](http://www.leopoldina.org)

🔗 Printed copies of the statement can be ordered from the Leopoldina by e-mail at [politikberatung@leopoldina.org](mailto:politikberatung@leopoldina.org)

## Constructive discussion on policy advice by the academies

After publishing the statement, various articles appeared in the Süddeutsche Zeitung and the Frankfurter Allgemeine Zeitung which covered the policy advice given by the scientific academies, particularly that of the Leopoldina as a National Academy of Sciences. In addition to Leopoldina's President Prof. Dr. Jörg Hacker ML, others also commented on the topic including Prof. Dr. Ernst-Ludwig Winnacker ML, Prof. Dr. Otfried Höffe ML, Prof. Dr. Peter Graf Kielmansegg, Prof. Dr. Dietmar Willoweit, Prof. Dr. Ottfried Edenhofer and Bundestag President Norbert Lammert.

🔗 You can find the text of Leopoldina's President Jörg Hacker's "Mehr harte Fakten" ("More hard facts") on the Leopoldina's website at: [www.leopoldina.org/fileadmin/user\\_upload/Politik/artikel\\_hacker\\_sz\\_20110122.pdf](http://www.leopoldina.org/fileadmin/user_upload/Politik/artikel_hacker_sz_20110122.pdf)

## Ernst-Ludwig Winnacker was honoured for his service to the Academy



*President of the Leopoldina, Jörg Hacker, presents Ernst-Ludwig Winnacker with the Medal of Merit in appreciation of the strong commitment the long-time Vice-President of the Academy has shown and for his continued work for the Leopoldina.*

Photo: Thomas Meinicke

*The Academy honoured Ernst-Ludwig Winnacker, its former Vice-President and the long-time President of the German research foundation Deutsche Forschungsgemeinschaft (DFG), with the Leopoldina's Medal of Merit. Winnacker was presented the award by Leopoldina's President Jörg Hacker on 14 December in the assembly hall at the University of Halle.*

"The Medal of Merit reflects the Academy's appreciation," says Hacker who spoke of Winnacker's major contribution in his laudation. Winnacker, a member of the Leopoldina since 1988 contributed greatly to the Academy for a long time as Vice-President (1995 to 2005). New departments were created and new projects were established. These were the first important steps on the Leopoldina's way to becoming a working Academy. Even today, Winnacker continues to be a tireless advisor, bringing his expertise to the Leopoldina's committees.

Hacker goes on to explain the great contribution Winnacker has made to science on a whole: to molecular biology and genetic engineering in Germany as a top scientist, to the German science sys-

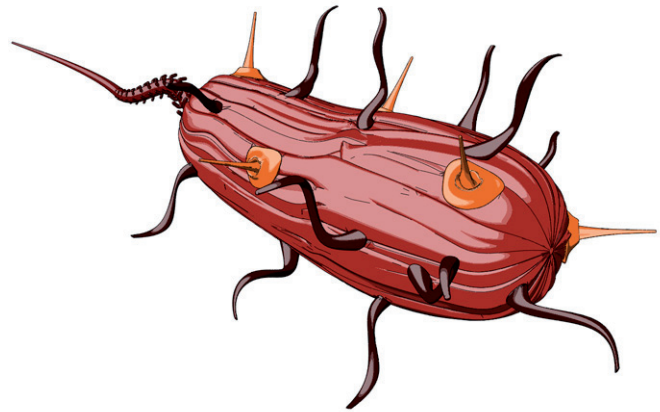
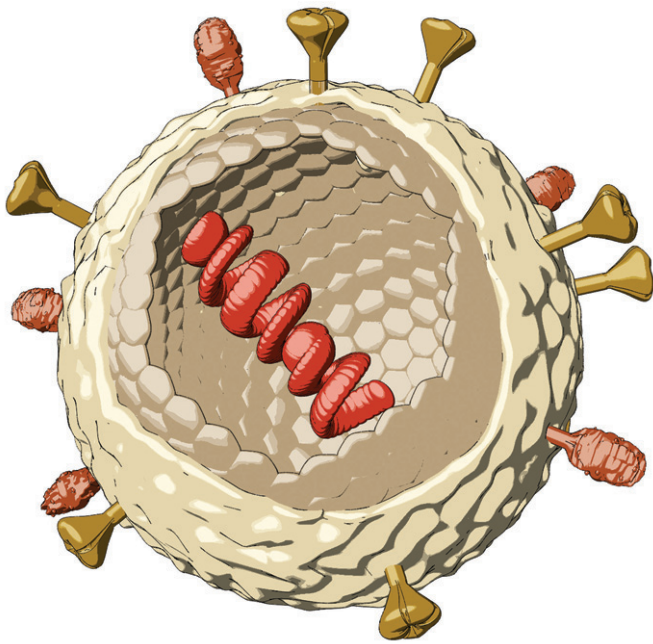
tem as a long-time President of the DFG and to fostering young scientists. Winnacker also helped start the "Exzellenzinitiative" (Excellence Initiative) which has fundamentally altered the higher education landscape in Germany. Finally, Winnacker is just as important for the "luminous power of German science" abroad. He tirelessly worked towards internationality and established liaison offices. The fact that he became the first secretary general of the European Research Council (ERC) in Brussels would therefore be consistent; he achieved a lot in an European sense. Cornelia Pieper, Minister of State at the Federal Foreign Office, also recalled in her welcome speech how Winnacker worked to build up the ERC: "Freedom to do scientific and research work is what allows us to cross borders."

In his subsequent presentation "Wissenschaft ohne nationale Grenzen – eine europäische Herausforderung" (Science Without National Borders – an European Challenge) Winnacker spoke of the "strange contradiction" of how research is internationally orientated, yet all of the organizations supporting and promoting research are active on a national level. A contradiction that must be overcome –

also in the context of global challenges like energy supply, climate change, the state of the oceans, the condition of the financial markets and major health problems like high infant mortality. "Science is needed everywhere we look. Problems don't stop at borders," says Winnacker. The foundation of the ERC in 2007 was an important step for Europe in overcoming national egotisms to a certain degree. "It is not a competition for countries, but for institutions." Scientists go where they find the best conditions – regardless of the country. In Europe the magnets are the Swiss universities in Zurich and Lausanne, the universities of Cambridge and Oxford and the Free University of Amsterdam. In Germany only the Max Planck Institutes can compete with such degree of attractiveness. "Of course it's all about money." In the end, Winnacker argued for taking on the "sacred cow" of EU agricultural subsidies and for using this money to finance more research and science.

Ernst-Ludwig Winnacker (born in 1941) was Vice-President of the DFG from 1987 to 1993 and its President from 1998 to 2006. From 2007 to June 2009 he was the first secretary general of the ERC in Brussels/Belgium. He has been the secretary general of the Human Frontier Science Program in Strasbourg/France since 1 July 2009. The latter is an organization which promotes international research in the field of life sciences and, above all, young scientists. Ernst-Ludwig Winnacker is a member of the Leopoldina in the Section of Human Genetics and Molecular Medicine.

The Medal of Merit is awarded for outstanding work for the good of the Academy. It bears the portrait of the honored member. Ernst-Ludwig Winnacker's medal was designed by Bernd Göbel, emeritus professor at the Burg Giebichenstein University of Art and Design Halle. (mab)



To visitors of the "MS Wissenschaft" models of a virus (left) and a bacterium are presented to illustrate different functions and activities.

Design: Christian Böhme

## Health research is this year's topic

The Leopoldina will take part in the Year of Science 2011 by offering many activities

Annette Schavan, minister of education and research and the initiative "Wissenschaft im Dialog" (Science in Dialogue) have proclaimed 2011 to be the Year of "Research into our Health". This year of health research is to direct attention towards people and to open up social and interdisciplinary debate on the goals, challenges and the current fields of activity of health research. It will also demonstrate how important effective health research is for good, quality medical care in the future.

As a medical and scientific Academy, the Leopoldina would like to lend special support for this topic and has put together an extensive programme with many events. This includes several symposia whose subjects can already be deduced: Which changes will research face in the coming years and which areas of research will shape our society in the future?

### WHAT IS LIFE?

One of the Leopoldina's symposia will broach the issue of the current state of discussions regarding the impact that epigenetic alterations have on human diseases. Two other symposia will deal with innovative therapies in palliative

medicine, in other words treatment of non-curable diseases, and with treatment for diseases with the help of regenerative medicine. Here, the body's own cells, organs or tissue are replaced by cultivated tissue or healed by triggering the body's own regeneration and repair processes.

The Leopoldina will devote this year's Annual Assembly to the topic "What is Life?" something that not only health research is grappling with, but also many other disciplines as well. From 23 to 25 September attention will be given to questions surrounding, for example, origin, diversity, models, impact of life and, not least, threat to, preservation and the limits of life. While Nobel Prize winner Prof. Dr. Christiane Nüsslein-Vollhard ML enlightens on the emergence of colour patterns of fish („Die Entstehung der Farbmuster bei Fischen“) on 23 September, another approach to the question of life will be made by Prof. Dr. Richard Schröder who refers to the topic from a theologocical point of view.

The Leopoldina is not only catering to an audience of experts. Many events address a broad range of audience. This

includes the Leopoldina lectures – each talk given by one lecturer – and the Leopoldina talks at which various experts discuss with one another. Lectures and talks cover topics to which the Leopoldina has made statements or recommendations for politics and makes them accessible for the general public. The first talk entitled "Bestimmen die Gene unser Schicksal?" (Do our genes determine our fate?) takes place on 3 March in Berlin and discusses the limits, risks and opportunities of Predictive Genetic Diagnosis. Questions that will be discussed include, for example: What can actually be determined by a genetic test? How do I deal with the knowledge I obtain from it? What possibilities of treatment do I have?

### ABOARD THE "MS WISSENSCHAFT"

In 2011 the Leopoldina will be a part of the exhibition ship "MS Wissenschaft". The ship belonging to the initiative "Wissenschaft im Dialog" will travel through Germany with an exhibition encompass-

Wissenschaftsjahr 2011

Forschung für  
unsere Gesundheit



The "MS Wissenschaft" will be travelling along German rivers again starting 19 May. Stops are planned in 35 cities. For the first time two exhibits by the Leopoldina will be aboard.

Photo: T. Gabriel/Triad

sing the entire bandwidth of health research. Those who visit the ship in one of the 35 cities it will stop in, can study the Leopoldina's exhibit which throws light on viruses and bacteria, i.e. how they function and how they can be combated. Just like what is offered aboard the "MS Wissenschaft", a part of the programme of the Leopoldina Night on 1 July in Halle is also directed at young visitors. Health will also be on the menu as part of the 10th Night of Sciences in Halle.

#### QUESTIONS TO LEOPOLDINA-EXPERTS

At the beginning of the year the Leopoldina published a list of 76 health experts from its series who are available to answer questions posed by the media and other interested people.

In this context it must also be mentioned that in mid-January, the Leopoldina, along with other academies, published statements regarding pre-implantation genetic diagnosis. Here a topic currently being hotly debated is taken up by science and research, thereby contributing to developing a political opinion.

(cw)

► The programme of the Leopoldina can be found at: [www.leopoldina.org](http://www.leopoldina.org)

► Information on the Year of Science can be found at: [www.forschung-fuer-unsere-gesundheit.de](http://www.forschung-fuer-unsere-gesundheit.de)

► Information on the exhibition on the "MS Wissenschaft" and its timetable can be found at: [www.ms-wissenschaft.de](http://www.ms-wissenschaft.de)

#### Leopoldina events in the Year of Science „Research into our Health“

##### ► Lectures, Talks and Exhibitions

**Thursday, 3 March, 6.00 p.m., Berlin**

**Leopoldina Talk "Bestimmen die Gene unser Schicksal?"** (Do our genes determine our fate?)  
Prof. Dr. Jörg Hacker ML, Prof. Dr. Peter Propping ML, Prof. Dr. Klaus Tanner ML, PD Dr. Denise Horn, Andrea Hahne, moderated by: Dr. Patrick Illinger, Süddeutsche Zeitung

**Tuesday, 26 April, 6.00 p.m., Halle**

**Leopoldina Fishbowl on preimplantation genetic diagnosis**  
round of discussions in cooperation with the Haus der Wissenschaft Braunschweig  
**19 May to 29 September, nationwide in 35 cities,**  
**"MS Wissenschaft" stops found at: [www.ms-wissenschaft.de](http://www.ms-wissenschaft.de)**

Leopoldina exhibition "Pathogens and the immune system"

**Friday, 1 July, from 6.00 p.m. onwards, Halle**

**Leopoldina Night as part of the Night of Sciences in Halle** with Leopoldina Talk contributing to the theme of the Year of Science 2011 "Research into our Health"  
Prof. Dr. Jörg Hacker ML, President of the Leopoldina

##### ► Symposia

**12 to 14 April, Würzburg**

**FEMS-Symposium "Emerging topics of microbial pathogenesis"**

Prof. Dr. Jörg Hacker ML, Halle, Prof. Dr. Thomas Rudel, Würzburg, Prof. Dr. Matthias Frosch, Würzburg, Prof. Dr. Jörg Vogel, Würzburg, Prof. Dr. Eliora Z. Ron and Prof. Dr. Yair Aharonowitz, Tel Aviv/Israel

**20 to 22 June, Weißenburg**

**Symposium "Epigenetics and the control of gene expression"**

Prof. Dr. Walter Doerfler ML, Prof. Dr. Bernhard Fleckenstein ML, Prof. Dr. Ulf Pettersson

**24 to 26 July, Tübingen**

**Symposium "Regenerative Medicine"**

Prof. Dr. Hans-Peter Zenner ML, Prof. Dr. Johannes Schubert ML, Prof. Dr. Gernot Duncker ML

**18 to 21 September, Würzburg**

**Symposium "Translational Research in neuro-psychiatric disorders"**

Prof. Dr. Michael Frotscher ML, Prof. Dr. Peter Riederer ML

**23 to 25 September, Halle**

**Leopoldina Annual Assembly "What is life?"**

Prof. Dr. Jörg Hacker ML, President of the Leopoldina, Prof. Dr. Michael Hecker, Greifswald

**25 to 26 November, Berlin**

**Symposium "Innovative therapies in palliative medicine"**

Prof. Dr. Peter Scriba ML, Prof. Dr. Monika Führer

(as of 28 February 2011)

## International Issues

### The EASAC office in Brussels has been in existence for one year

#### The independent scientific expertise of the National Academies is to be made accessible for EU institutions

Even though the EASAC, a federation of National Academies of the European Union (EU), has been around for ten years, it took nine years before an EASAC office was opened in Brussels. Since March 2010, a point of contact for the EASAC has been located at the Royal Academies for Science and the Arts of Belgium which has been busy throughout the past twelve months.

#### STRENGTHS LIE IN EU CONSENSUS

The tasks of the EASAC office in Brussels are derived from the EASAC's general goals. EASAC wants to make the excellent and independent scientific expertise of the EU's National Academies available to institutions in Brussels in order to enable political decisions. The specific strength of the EASAC is that all of its reports and statements are passed by consensus. Thus, for political negotiations still often defined by national interests, there is an EU-wide scientific consensus on certain issues.

#### THREE SUBJECT AREAS

Every year, the EASAC sets up new workgroups in the areas of energy, life sciences and the environment. The main task of the Brussels office is to establish contact with the groups and points of contact of the EU institutions for whom the EASAC's work is of relevance. However it's not just a one way street: Not only are the results of the EASAC conveyed to

these contacts, the questions of EU politicians are taken up as early as possible and forwarded to the active workgroups. This ensures that the EASAC reports tackle those issues that are important for the political decision-making process and make them as beneficial for the EU institutions as possible. In addition to its contacts with the institutions of the "EU pillars" Parliament, Commission and Council of Ministers, the EASAC office in Brussels also endeavors to carry out a lively exchange with the two official scientific advisory institutions of the Parliament and Commission: the Scientific Technology Options Assessment (STOA) and the Joint Research Council (JRC). One of the EASAC's current workgroups on the topic of "Impact of Nanomaterials on Human Health" is actually working together with the JRC and will present its report this summer.

#### ANNIVERSARY IN NOVEMBER

The EASAC's Brussels office has become an increasingly important location for political briefings and workgroup meetings in past months. The neo-classical palace of the Belgian academies in the centre of Brussels provides a prestigious setting for such meetings. The celebration to mark the 10th anniversary of the EASAC in November 2011 is to be held there as well. (csd)

#### FEAM: Mental health has been neglected

The topic of mental disease has been neglected by EU politicians. This was the conclusion of a statement made by the Federation of the European Academies of Medicine (FEAM) – a federation of medical academies, including the Leopoldina, from 14 European countries. The current situation in psychiatry is inhibited by an insufficient biological understanding of mental disorders, a lack of recognition, a lack of effective therapies, stigmatization and poor access to healthcare. The report in English entitled "FEAM Statement on Mental Health Policy Issues" is based on the discussion of this critical topic at a FEAM meeting in Prague in 2009. A major component are the recommendations resulting from this meeting made to decision-makers in the European Union and European countries who are aiming for an uniform policy in the area of mental health. On the one hand, there is to be a better understanding of psychosocial and biological factors of mental disorders. On the other hand, new scientific findings need to be used in such a way that diagnosis and therapy can be designed more effectively. It is also important to optimize proven strategies within the healthcare services. Linking research with clinical application particularly demands a higher investment in numerous fields of research and in the supporting infrastructure. More attempts must be made to find and implement public-private partnerships. (mab)

## Events

**INTERNATIONAL WORKSHOP: "MEDICINE AS A MEDIUM OF MULTIPLE MODERNITIES – TRANSACTIONS AND CONTINGENCIES BETWEEN CHINA, GERMANY AND JAPAN IN THE 19TH AND EARLY 20TH CENTURIES", 10 TO 12 MARCH 2011, 9.00 A.M., ASSEMBLY HALL OF THE LÖWENGEBAUDE, THE MAIN BUILDING OF MARTIN LUTHER UNIVERSITY, HALLE-WITTENBERG, UNIVERSITÄTSPLATZ 1, 06108 HALLE (SAALE)/GERMANY - INCLUDES AN EVENING LECTURE: PROF. DR. LI XUETAO "ACHSENZEIT UND CHINA - WECHSELSEITIGE WIRKUNGEN", 10 MARCH 2011, 8.00 P.M.**

Medicine focuses on the most recent scientific findings and techniques while at the same time it is a practice deeply interwoven in the everyday life of people.

Thus medicine can serve as a medium that mirrors on one hand, complex scientific, technical as well as economic processes and on the other hand, adaptation to these social processes in the everyday lives of people. From the perspective of globalization, it is the aim of this project to explore and create knowledge to understand current issues of globalization by examining processes of modernization through the focus of medicine.

This specific approach promises valuable insights when processes of globalization and modernization are examined in different countries, regions, institutions or disciplines. For the purpose of comparison, the regions of Europe and East Asia will be selected. However, histori-

cal comparison is not the research goal in itself but only a heuristic instrument. Germany, Japan and China will be at the centre of attention because modernization in these three countries occurred in different periods while being in a key relationship of interdependence when transferring modern medicine from Europe to East Asia and within Asia.

With the selection of these two regions and three countries, the diverse exchange and transaction of ideas between Europe and Asia in different areas of knowledge and activity will be the focus of investigations. In terms of historical periods, investigations will concentrate on the time of the introduction of modern scientific medicine in the late 19th and early 20th centuries.

The concept of 'multiple modernities' by Shmuel N. Eisenstadt is the theoretical approach of this project. It allows to

explain processes of modernization by looking at contingent historical events and thereby to capture the environment and the intentions of historical actors - it is, as Wolfgang Knöbl says - „contingency sensitive“. The idealtypischen constructs of certain 'levels' or 'zones' of modernity proposed by Eisenstadt are far from real social configurations or even historical detail. However, this project will contribute right here by studying historical transfer processes.

► Scientific organization:

Prof. Dr. Heiner Fangerau, Ulm  
Prof. Dr. Alfons Labisch ML, Düsseldorf  
Prof. Dr. Christian Oberländer,  
Halle (Saale)

**LEOPOLDINA-SYMPOSIUM: "TROPICAL INFECTIOUS DISEASES", JOINT CONFERENCE OF THE NATIONAL ACADEMY OF SCIENCES LEOPOLDINA AND THE GHANA ACADEMY OF ART AND SCIENCES, 21 TO 22 MARCH 2011, KUMASI/GHANA**

From 21 to 22 March a joint conference of the Ghana Academy of Art and Sciences and the German National Academy of Sciences Leopoldina will take place in Kumasi/Ghana.

Members of both academies as well as representatives of the Deutsche Forschungsgemeinschaft (DFG) and other personalities of research, medicine and politics will discuss matters of tropical infectious diseases as well as possibilities and chances of a North-South-Cooperation in Health Research.

Malaria and AIDS will be the topics discussed on the first day of the conference. Malaria, the WHO states, endan-

gers half of world's population to become newly infected. Every year hundreds of millions of people are infected with Malaria. If there is no medical treatment available about a million people die every year from the Malaria-infection – half of them dying are babies and infants up to the age of 5.

Amongst others Prof. Dr. Horstmann and Dr. Thomas Jacobs of the Bernhard Nocht Institute for Tropical Medicine Hamburg will talk about this topic, supported by fellow researchers and colleagues from Germany and Ghana.

Announced aspects on the symposium's schedule for the second day are Myco-

bacteria, which cause for example tuberculosis or leprosy, Chlamydia as well as Helminth, Bacterial and Viral infections.

The scientific organization of the German-Ghanaian joint symposium lies in the hands of Prof. Dr. Bernhard Fleischer ML, Vice-Chair of the Board of Directors of the Bernhard Nocht Institute for Tropical Medicine Hamburg.

---

**FEMS-LEOPOLDINA-SYMPOSIUM: “EMERGING TOPICS IN MICROBIAL PATHOGENESIS”, 12 TO 14 APRIL 2011, BEGINNING OF THE EVENT ON 12 APRIL, 8.00 A.M., GARTENPAVILLION, JULIUSSPITAL WÜRZBURG, KLINIKSTRASSE 1, 97070 WÜRZBURG/GERMANY**

The Theodor-Boveri-Institute of Bioscience, part of the Julius-Maximilians-University Würzburg announces a symposium, which is jointly sponsored by the Federation of European Microbiological Societies (FEMS) and the German National Academy of Sciences Leopoldina.

The focus of the symposium will be on cutting-edge themes in molecular and cellular pathogenesis as well as infection and immunity. These will include pre-

sentations on the application of newest technologies in infection research like intra-vital microscopy and next generation sequencing. But also most recent advances in translational research will be presented during the conference.

More than twenty-five internationally leading researchers have been invited as speakers. There will also be significant time during the conference for poster sessions and short talks to be presented

by young Scientists.

🔵 Scientific Organization:

Prof. Dr. Jörg Hacker ML, Halle  
 Prof. Dr. Thomas Rudel, Würzburg,  
 Prof. Dr. Matthias Frosch, Würzburg,  
 Prof. Dr. Jörg Vogel, Würzburg,  
 Prof. Dr. Eliora Z. Ron, Tel Aviv/Israel,  
 Prof. Dr. Yair Aharonowitz, Tel Aviv/Israel

---

**LEOPOLDINA’S 2011 ANNUAL ASSEMBLY: “WHAT IS LIFE?”, 23 TO 25 SEPTEMBER 2011, 9.00 A.M., K & K KONGRESS- UND KULTUR-ZENTRUM HALLE, FRANCKESTRASSE 1, 06110 HALLE (SAALE)/GERMANY**

“What is life?” is one of the oldest questions ever asked in human history. Initially a domain of the philosophers of the Ancient World, the issue is now increasingly coming into the focus of natural science. In the 1940s physicists such as Erwin Schrödinger asked this question while studying the problem of where hereditary factors come from: Genes.

Since the breakthrough in functional genome research, today scientists can describe and understand molecular life processes with a complexity which would 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.

🔵 Scientific organization:

Prof. Dr. Jörg Hacker ML, Halle (Saale)  
 Prof. Dr. Michael Hecker ML, Greifswald

🔵 The complete programme of these years Annual Assembly will be published in the upcoming newsletter.



# People

## 2011 Leibniz Prizes

Two top female researchers will receive the Leibniz Prize, the most prestigious research prize in Germany. **Prof. Dr. Ulla Bonas ML** and **Prof. Dr. Anja Feldmann ML**, both members of the Leopoldina, will be presented the awards of the Deutsche Forschungsgemeinschaft (DFG) on 16 March in Berlin. Each prize is worth 2.5 million euros:



*U. Bonas* Photo: M. Glöckner/Uni Halle

Ulla Bonas from the University of Halle-Wittenberg studies the interaction between pathogenic bacteria and plants affected by the plant pathogen *Xanthomonas campestris* pv. *vesicatoria* (Xcv). This pathogen particularly affects pepper and tomato plants. Her research is closely linked to an effector protein of Xcv, the AvrBs3 gene. Bonas was able to clone, characterize and explain the functions of this gene. On the one hand AvrBs3 contributes to cell growth which encourages the plant to supply the avirulence gene with nutrients. On the other hand it releases a suicide program in resistant plants through a bond to the promoter of the Bs3-resistance gene which results in cell death. Her work is of fundamental importance for understanding plant-microbe interactions. It is extremely important for biotechnology as it reveals ways to selectively switch genes on and off. Bonas has been a member of the Leopoldina's Microbiology and Immunology Section since 2008.



*A. Feldmann*

Photo: Dahl/TU Berlin

Anja Feldmann of the Technische Universität Berlin, is one of the top international researchers in the field of the Internet. Feldmann has influenced the development of the Internet beyond basic research, particularly with her work on the analysis and modeling of Internet traffic and Internet routing. Her studies on the limits and possibilities of web proxy caching have influenced the business decisions of countless Internet services. In more recent work, Anja Feldmann has studied systems that defend against attack in high speed networks. She has also looked at new forms of application and use such as chats, Web 2.0 and social networks with the aim of incorporating her findings into improving the architecture of the Internet. Feldmann has been a member of the Leopoldina's Informatics Section since 2009.

## Deceased members

**Prof. Dr. Jacques Bernheim ML**,  
28 July 1924 - 2008 Geneva/Switzerland  
Pathology and Forensic Medicine Section  
He became a member of the Leopoldina in 1970 due to his innovative work in the area of forensic anthropology.

**Prof. Dr. Michel Jaubert de Beaujeu ML**,  
5 June 1917 – 1 Feb 2009  
Surgery, Orthopedics and Anesthesiology Section  
He was admitted as a member of the Leopoldina in 1977 for his work in neonatal and pediatric surgery, particularly in the area of thoracic surgery.

**Prof. Dr. Wolf D. Keidel ML**,  
14 Dec 1917 – 17 Jan 2011 Bayreuth/Germany  
Physiology and Pharmacology/Toxicology Section  
He became a member of the Leopoldina in 1970 for his pioneering work in sensory physiology – particularly hearing and the sense of vibration on the skin. He is considered to be the first to apply the terms and investigation methods of information theory and cybernetic to sensory physiology.

**Prof. Günter Tembrock ML**,  
7 June 1918 – 26 Jan 2011 Berlin/Germany  
Organismic and Evolutionary Biology Section  
He became of member of the Leopoldina in 1965 for his research work into behavioral biology among other things. His work led to the establishment of a "Research facility for animal psychology" at Humboldt University's Zoological Institute in Berlin. He coined the term "biocoustics" and is the founder of the largest archive of animal sounds in Europe.

**Prof. Dr. Valeria A. Troitskaya ML**,  
15 Nov 1917 – 22 Jan 2010 Melbourne/  
Australia

Earth Sciences Section

She became a member of the Leopoldina in 1970 for her work in studying geomagnetism, in particular pulsations.

**Prof. Dr. Bernhard Witkop ML**

9 May 1917 – 22 Nov 2010 Chevy Chase,  
MD/USA

Chemistry Section

He was chosen to become a member of the Leopoldina in 1972 for his wide-ranging work in the areas of indole series, peptides, and catecholamines among other things, and for his research into amphibian poisons.

### Newly elected members of the Academy, 24 November 2010

**Hans-Joachim Gehrke**, Berlin, Professor of Ancient History at the University of Freiburg i. Br. and President of the German Archeological Institute in Berlin (Cultural Sciences Section)

**Dieter Langewiesche**, Tübingen, Professor Emeritus of Medieval and Modern History in the History Department of the Eberhard Karls University in Tübingen (Cultural Sciences Section)

**Reinhard Merkel**, Hamburg, Professor of Criminal Law at the Faculty of Law of the University of Hamburg (Epistemology Section)

**Christof Rapp**, Munich, Professor of Ancient Philosophy and Rhetoric and Director of the “Center for Advanced Studies” at the Ludwig Maximilians University in Munich (Cultural Sciences Section)

**Jochen Taupitz**, Mannheim, Professor of Civil Law, Civil Procedure Law, Private International Law and Comparative Law at the University of Mannheim (Epistemology Section)

**David E. Wellbery**, Chicago/USA, Leroy T. and Margaret Deffenbaugh Carlson University Professor and Director of the Center for Interdisciplinary Research on German Literature and Culture, University of Chicago (Cultural Sciences Section)



**Leopoldina**  
Nationale Akademie  
der Wissenschaften

#### Deutsche Akademie der Naturforscher Leopoldina – Nationale Akademie der Wissenschaften e.V.

Emil-Abderhalden-Str. 37

06108 Halle (Saale)

Telefon: +49-345/4 72 39 – 800

Fax: +49-345/4 72 39 – 19

E-Mail: [presse@leopoldina.org](mailto:presse@leopoldina.org)

#### Editors

Prof. Dr. Jutta Schnitzer-Ungefug (jsu)

(responsible according to the German press law)

Prof. Dr. Dr. Gunnar Berg ML (gb)

Manuela Bank (mab)

Anne Schauer (asc)

#### Other authors in this issue:

Dr. Christian Anton, consultant at the Leopoldina policy advice department (ca)

Dr. Jörg Beineke, Senior Scientific Coordinator Leopoldina (jb)

Dr. Christiane S. Diehl, Executive Director EASAC (csd)

Dr. Rolf Hömke, Press and Public Relations, Paul-

Martini-Stiftung Berlin

Carola Kleinschmidt, freelance journalist

Dr. Eva-Maria Streier, Head of Press and Public Relations of the Deutsche Forschungsgemeinschaft (DFG)

Caroline Wichmann, Head of Press and Public Relations Leopoldina (cw)

#### Copyright

For the Leopoldina newsletter the copyright and all other rights are held by the Deutsche Akademie der Naturforscher Leopoldina – Nationale Akademie der Wissenschaften, Emil-Abderhalden-Str. 37, 06108 Halle an der Saale, Germany. Redistribution, including in the form of extracts, is permitted for educational, scientific and private purposes if the source is quoted (unless otherwise explicitly indicated by the article in question). Permission must be sought from the Leopoldina for commercial use.

#### Links to external websites:

The Leopoldina does its best to select all hyperlinks in Leopoldina news and their contents care-

fully, but has no influence on the content or design of the pages linked to. The Leopoldina hereby explicitly rejects any liability for the contents of external Internet pages.

#### Abbreviations

ML = Member of the Leopoldina

# Inside the Leopoldina

## Anniversaries of Leopoldina members in 2011

**THE FOLLOWING IS A LIST OF MEMBERS OF THE ACADEMY CELEBRATING JUBILEE BIRTHDAYS STARTING FROM 65 ONWARDS. IN THE FUTURE THIS LIST WILL BE PUBLISHED AT THE END OF EACH YEAR FOR THE YEAR TO COME.**

### 65th anniversary:

Hans-Jörg Rheinberger, Berlin/Germany, 12 Jan  
 Christoph Reiners, Würzburg/Germany, 28 Jan  
 Bernd Herrmann, Göttingen/Germany, 3 Feb  
 Hermann Koepsell, Würzburg/Germany, 23 Feb  
 Siegfried Blechert, Berlin/Germany, 1 Mar  
 Felix Unger, Salzburg/Austria, 2 Mar  
 Lis Brack-Bernsen, Pentling/Germany, 2 Mar  
 Jef Vandenberghe, Amsterdam/Netherlands, 5 Mar  
 Dieter Enders, Aachen/Germany, 17 Mar  
 Hans Lutz, Zurich/Switzerland, 20 Mar  
 Peter H. Krammer, Heidelberg/Germany, 2 Apr  
 Elisabeth Giacobino, Paris/France, 3 Apr  
 Johannes Schubert, Halle (Saale)/Germany, 5 Apr  
 Ellen Fanning, Nashville, TN/USA, 10 Apr  
 Klaus Diedrich, Lübeck/Germany, 28 Apr  
 Ulrich Schubert, Vienna/Austria, 26 May  
 James Robert Brown, London, Ontario/Canada, 30 May  
 Eva-Bettina Bröcker, Würzburg/Germany, 1 June  
 Walter Michaeli, Aachen/Germany, 4 June  
 Didier Astruc, Talence/France, 9 June  
 Urs Boschung, Bern/Switzerland, 21 June  
 Wilhelm Barthlott, Bonn/Germany, 22 June  
 Kyriacos C. Nicolaou, La Jolla, CA/USA, 5 July  
 Hans Bertram, Berlin/Germany, 8 July  
 Michael Hecker, Greifswald/Germany, 9 July  
 Thomas Börner, Berlin/Germany, 11 July  
 Karsten Fehlhaber, Leipzig/Germany, 13 July  
 Hans-Detlev Saeger, Dresden/Germany, 20 July  
 Paul Hoyningen-Huene, Zurich/Switzerland, 31 July  
 Klaus Höffken, Jena/Germany, 5 Aug  
 Heinz Schott, Bonn/Germany, 8 Aug  
 Bernard F. Schutz, Potsdam/Germany, 11 Aug  
 Grigory E. Volovik, Helsinki/Finland, 7 Sept  
 Joachim Messing, Piscataway, NJ/USA, 10 Sept  
 Pekka Juhani Saukko, Turku/Finland, 12 Oct  
 Gottfried Schmalz, Regensburg/Germany, 13 Oct  
 Ekhard K.H.Salje, Cambridge/UK, 20 Oct  
 Alfons Labisch, Düsseldorf/Germany, 20 Oct  
 Rolf Kreienberg, Ulm, 27 Oct  
 Bernhard Kräutler, Innsbruck/Austria, 2 Nov  
 Walter Bär, Zurich/Switzerland, 7 Nov  
 Dieter Birnbacher, Düsseldorf/Germany, 21 Nov  
 Wolfgang Baumeister, Martinsried/Germany, 22 Nov  
 Reinhard Graf, Stolzalpe/Austria, 25 Nov

### 70th anniversary

Wolf Lepenies, Berlin/Germany, 11 Jan  
 Uzy Smilansky, Rehovot/Israel, 24 Jan  
 Irene Schulz-Hofer, Konstanz/Germany, 25 Jan  
 Ekkehart Tillmanns, Vienna/Austria, 29 Jan  
 Klaus Peter Sauer, Bonn/Germany, 2 Feb  
 Bodo Christ, Freiburg i.Br./Germany, 4 Feb  
 Günter Burg, Maur/Switzerland, 5 Feb  
 Bernard C. Rossier, Lausanne/Switzerland, 24 Feb  
 Peter Schuster, Vienna/Austria, 7 Mar  
 Fritz A.Henn, Upton, NY/USA, 26 Mar  
 Detlev Ganten, Berlin/Germany, 28 Mar  
 Martin Röllinghoff, Erlangen/Germany, 1 Apr  
 Jörn Thiede, Copenhagen/Denmark, 14 Apr  
 Jürgen Kocka, Berlin/Germany, 19 Apr  
 Dietrich von Engelhard, Lübeck/Germany, 5 Apr  
 Friedrich A. Seifert, Berlin/Germany, 8 May  
 Karl Sperling, Berlin/Germany, 11 May  
 Konrad Beyreuther, Heidelberg/Germany, 14 May  
 Lutz Nover, Oberursel-Weisskirchen/Germany, 16 May  
 Michel Eichelbaum, Stuttgart/Germany, 19 May  
 Hans Föllmer, Berlin/Germany, 20 May  
 Hermann Wagner, Munich/Germany, 20 May  
 Ernst Th. Rietschel, Berlin/Germany, 21 May  
 Uta Frith, Harrow/UK, 25 May  
 Heinz Saedler, Cologne/Germany, 3 June  
 Martyn M.Caldwell, Washington, DC/USA, 28 June  
 Karl O.Stetter, Regensburg/Germany, 16 July  
 Michael Stolleis, Kronberg/Germany, 20 July  
 D. Yves von Cramon, Munich, 21 July  
 Ernst-Ludwig Winnacker, Strasbourg/France, 26 July  
 Jules A. Hoffmann, Strasbourg, 2 Aug  
 István Klinghammer, Budapest/Hungary, 10 Aug  
 Gerd Assmann, Münster/Germany, 11 Aug  
 Onora O'Neill, London/UK, 23 Aug  
 Ernst-Detlef Schulze, Jena/Germany, 12 Sept  
 David Joseph Apple, Sullivan's Island, SC/USA, 14 Sept  
 Jürgen Knop, Bad Kreuznach/Germany, 21 Sept  
 Rolf Kinne, Dortmund/Germany, 27 Sept  
 Theodor W. Hänsch, Munich/Germany, 30 Oct  
 Jürgen Baumert, Berlin/Germany, 3 Nov  
 François Mathey, Singapore, 4 Nov  
 Pierre Albrecht, Strasbourg/France, 4 Nov  
 Hannes Flühler, Zurich/Switzerland, 4 Dec  
 Rüdiger Wolfrum, Heidelberg/Germany, 13 Dec  
 Michel Che, Paris/France, 29 Dec

**75th anniversary:**

Günter Schultz, Berlin/Germany, 23 Jan  
 Samuel C. C. Ting, Geneva/Switzerland, 27 Jan  
 Karlheinz Bauch, Chemnitz/Germany, 19 Feb  
 Harald zur Hausen, Heidelberg/Germany, 11 Mar  
 Jean-Pierre Changeux, Paris/France, 6 Apr  
 Peter Fulde, Dresden/Germany, 6 Apr  
 Enno Christophers, Kiel/Germany, 7 Apr  
 Detlef Petzoldt, Heidelberg/Germany, 21 Apr  
 Fritz Melchers, Berlin/Germany, 27 Apr  
 Volker Strassen, Dresden/Germany, 29 Apr  
 Dankwart Stiller, Halle (Saale)/Germany, 18 May  
 Günter Blobel, New York, NY/USA, 21 May  
 Paul Kleihues, Zurich/Switzerland, 21 May  
 Eckard Wimmer, East Setauket, NY/USA, 22 May  
 Per Brandtzaeg, Oslo/Norway, 9 June  
 Ulrich Pfeifer, Bonn/Germany, 11 June  
 Bert Hölldobler, Würzburg/Germany, 25 June  
 Johannes Klammt, Schwerin/Germany, 27 June  
 Meir Lahav, Rehovot/Israel, 27 June  
 Stefan Hildebrandt, St. Augustin, 13 July  
 Günther Wolfram, Freising-Weihenstephan/Germany, 15 July  
 Ulrich Lüttge, Mühlthal/Germany, 16 July  
 Rolf Ziegler, Feldafing/Germany, 22 July  
 Wolfgang Künzel, Gießen/Germany, 28 July  
 Hans G. Beger, Ulm/Germany, 10 Aug  
 Meinhard Classen, Munich, 12 Aug  
 Gottfried Schatz, Reinach/Switzerland, 18 Aug  
 Peter Noll, Berlin/Germany, 9 Sept  
 Rudolf Rigler, Stockholm/Sweden, 13 Sept  
 Gerhard Ertl, Berlin/Germany, 10 Oct  
 Jürgen Mittelstraß, Konstanz/Germany, 11 Oct  
 Werner F. Kümmel, Udenheim/Germany, 17 Oct  
 Erwin Schöpf, Freiburg i.Br./Germany, 18 Oct  
 Reinhard Kühnau, Halle (Saale)/Germany, 26 Oct  
 Hiroaki Ueki, Okayama/Japan, 30 Oct  
 Heinrich Soffel, Gauting/Germany, 30 Oct  
 Klaus Rajewsky, Boston, MA/USA, 12 Nov

**80th anniversary:**

Jürgen W. Spranger, Sinzheim/Germany, 1 Jan  
 Rolf Klötzler, Borsdorf/Germany, 11 Jan  
 Fritz Peter Schäfer, Göttingen/Germany, 15 Jan  
 Norbert Hilschmann, Göttingen/Germany, 8 Feb  
 Gisbert Frhr. zu Putlitz, Heidelberg/Germany, 14 Feb  
 Hubert E. Schroeder, Opfikon/Switzerland, 17 Feb  
 Ikuo Ishiyama, Saitama/Japan, 27 Feb  
 Eberhard Schnepf, Heidelberg/Germany, 4 Apr  
 Horst Köditz, Magdeburg/Germany, 6 May  
 Johannes Eckert, Zurich/Switzerland, 14 May  
 Hanskarl Müller-Buschbaum, Kiel/Germany, 24 May  
 Hans-Joachim Queisser, Stuttgart/Germany, 6 July  
 Malte E. Wigand, Nuremberg/Germany, 18 Aug  
 Aleksandr S. Spirin, Pushchino/Russia, 4 Sept  
 Leonhard Bittner, Greifswald/Germany, 9 Sept  
 Rudolf Taube, Halle (Saale)/Germany, 11 Sept  
 Bruno Messerli, Zimmerwald/Switzerland, 17 Sept  
 Kurt Schaffner, Mülheim/Germany, 6 Oct  
 Charles Weissmann, Jupiter, FL/USA, 14 Oct  
 Rudolf Hagemann, Halle (Saale)/Germany, 21 Oct

Karl-Armin Tröger, Freiberg/Germany, 30 Nov  
 Karl Heinz Büchel, Burscheid/Germany, 10 Dec

**85th anniversary:**

Emilie Jäger, Meikirch/Switzerland, 4 Jan  
 Hans Berckhemer, Bad Homburg/Germany, 16 Jan  
 Dietfried Jorke, Jena/Germany, 19 Feb  
 Martin Kramer, Wiesbaden/Germany, 22 Feb  
 David H. Hubel, Boston, MA/USA, 27 Feb  
 Daniel Kastler, Bandol/France, 4 Mar  
 Heinz A. Staab, Heidelberg/Germany, 26 Mar  
 Wolfgang Gerok, Freiburg i.Br./Germany, 27 Mar  
 Yutaka Sano, Kyoto/Japan, 18 Apr  
 Klaus Riegel, Munich/Germany, 14 May  
 Heinz Häfner, Heidelberg/Germany, 20 May  
 Rudolf Kippenhahn, Göttingen/Germany, 24 May  
 Hans Dierck Waller, Tübingen/Germany, 29 May  
 Rudolf Klöti, Zurich/Switzerland, 3 June  
 Erich Muscholl, Mainz/Germany, 3 July  
 Erich Hecker, Heidelberg/Germany, 7 July  
 Mieczyslaw Wender, Poznan/Poland, 26 July  
 Andreas Oksche, Gießen/Germany, 27 July  
 Heinz Fortak, Berlin/Germany, 11 Aug  
 Klaus Dransfeld, Ermatingen/Switzerland, 12 Aug  
 Genji Matsuda, Nagasaki/Japan, 28 Aug  
 Rudolf Manfred Schmidt, Halle (Saale)/Germany, 6 Nov  
 Oleh Hornykiewicz, Vienna/Austria, 17 Nov  
 Arnulf Fritsch, Vienna/Austria, 21 Dec

**90th anniversary:**

Hans Mau, Tübingen/Germany, 13 Jan  
 Paul Champagnat, Aubusson/France, 23 Jan  
 Harro Seyfarth, Leipzig/Germany, 6 Feb  
 Jacques Friedel, Paris/France, 11 Feb  
 Jacob Karl Frenkel, Santa Fe, NM/USA, 16 Feb  
 Theodor O. Diener, Beltsville, MD/USA, 28 Feb  
 Siegfried Hünig, Würzburg/Germany, 3 Apr  
 Hans-Heinrich Voigt, Göttingen/Germany, 18 Apr  
 Cornelis Jager, Den Burg/Netherlands, 29 Apr  
 Karl Lennert, Kiel/Germany, 4 June  
 Albert Herz, Munich/Germany, 5 June  
 Helmut Rische, Wernigerode/Germany, 12 June  
 László Szekeres, Szeged/Hungary, 4 July  
 Gustav V.R. Born, London/UK, 29 July  
 Paul Hagenmuller, Pessac/France, 3 Aug  
 Boris A. Lapin, Sochi-Adler/Russia, 10 Aug  
 Christian Müller, Bern/Switzerland, 11 Aug  
 Wolfgang Spann, Munich/Germany, 29 Aug  
 Gerhard Seifert, Hamburg/Germany, 9 Sept  
 Johannes W. Rohen, Erlangen/Germany, 18 Sept  
 Ekkehard Grundmann, Münster/Germany, 28 Sept  
 Vince Varró, Szeged/Hungary, 13 Oct  
 Wilhelm Hasselbach, Heidelberg/Germany, 15 Oct  
 Konrad Seige, Lieskau/Germany, 27 Oct  
 Friedrich Stelzner, Bonn/Germany, 4 Nov  
 Joachim-Hermann Scharf, Halle (Saale)/Germany, 7 Nov

**91st anniversary:**

Osamu Hayaishi, Osaka/Japan, 8 Jan  
 Wilhelm Oelßner, Leipzig/Germany, 3 Mar

Nicolaas Bloembergen, Tucson, AZ/USA, 11 Mar  
 Werner Janzarik, Heidelberg/Germany, 3 June  
 Rolf Huisgen, Munich/Germany, 13 June  
 Eduard Gitsch, Vienna/Austria, 3 Aug  
 Stefania Jablonska, Warsaw/Poland, 7 Sept  
 Leopold G. Koss, New York, NY/USA, 2 Oct  
 Saburo Nagakura, Kawasaki-shi/Japan, 3 Oct  
 Hugo L. Obwegeser, Schwerzenbach/Switzerland, 21 Oct  
 Otto Kandler, Munich, 23 Oct  
 Otto Mayrhofer, Vienna/Austria, 2 Nov  
 Egbert Schmiedt, Grünwald/Germany, 20 Nov  
 Paul Stevanovits, Budapest/Hungary, 24 Nov  
 Hans Haller, Dresden/Germany, 17 Dec  
 Yves Laporte, Paris/France, 17 Dec  
 Heinrich Köle, Graz/Austria, 24 Dec

#### **92nd anniversary:**

G. Roberto Burgio, Pavia/Italy, 30 Apr  
 Lubos Perek, Prague/Czech Republic, 26 July  
 Hans-Jürgen Eichhorn, Berlin/Germany, 13 Sept  
 Kurt Unger, Quedlinburg/Germany, 20 Sept  
 Wilhelm Künzer, Freiburg i.Br./Germany., 3 Nov  
 Simon N. Checinasvili, Tbilisi/Georgia, 26 Nov  
 Hans Kuhn, Troistorrents/Switzerland, 5 Dec

#### **93rd anniversary:**

Heinz Kliewe, Greifswald/Germany, 15 Jan  
 Maurice E. Müller, Bern/Switzerland, 28 Mar  
 Harold Henkes, Voorst/Netherlands, 18 Apr  
 Eugen Seibold, Freiburg i.Br./Germany, 11 May  
 Ole Wasz-Höckert, Fuengirola/Spain, 28 Aug  
 Jens Christian Skou, Risskov/Denmark, 8 Oct

Leonid S. Rosenstrauch-Ross, Stamford, CT/USA, 8 Dec  
 Siegfried Herzog, Greiz/Germany, 10 Dec

#### **94th anniversary:**

Fritz Kümmerle, Mainz/Germany, 14 Feb  
 Hilgard O'Reilly Sternberg, Berkeley, CA/USA, 5 July  
 Christian Duve, Nethen/Belgium, 2 Oct  
 Walter H. Munk, La Jolla, CA/USA, 19 Oct  
 Sir Andrew F. Huxley, Cambridge/UK, 22 Nov

#### **95th anniversary:**

Heinz Jagodzinski, Munich/Germany, 20 Apr  
 Hans-Werner Altmann, Würzburg/Germany, 7 June  
 Paul Schölmerich, Mainz/Germany, 27 June  
 Niilo Hallman, Helsinki/Finland, 15 July  
 Hisao Takayasu, Tokio/Japan, 26 Nov

#### **96th anniversary:**

Karl Maramorosch, New Brunswick, NJ/USA, 16 Jan  
 Sakari Timonen, Helsinki/Finland, 17 Mar  
 Shoji Shibata, Tokio/Japan, 23 Oct  
 Friedrich-Ernst Stieve, Munich/Germany, 5 Nov

#### **97th anniversary:**

Klaus Betke, Lochham/Germany, 30 Oct

#### **98th anniversary:**

Britton Chance, Philadelphia, PA/USA, 24 July

#### **99th anniversary:**

Vasilij V. Kuprijanov, Moscow/Russia, 1 June