19TH MEETING DEDICATED TO PHYSIOLOGY OR MEDICINE –
FORUM FOR THE FUTURE FOR BEST TALENTS FROM 64 NATIONS

57th Meeting of Nobel Laureates at Lindau

Retrospects and Prospects 2007

Kuratorium für die Tagungen der Nobelpreisträger in Lindau
Council for the Lindau Nobel Laureate Meetings

MEETINGS OF NOBEL LAUREATES LINDAU

Stiftung Lindauer Nobelpreisträgertreffen am Bodensee
Foundation Lindau Nobelprizewinners Meetings at Lake Constance

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Foreword

by Countess Sonja Bernadotte af Wisborg

Countess Sonja Bernadotte af Wisborg, President of the Council for the Lindau Nobel Laureate Meetings, and young researchers from Israel.

The Nobel Laureate Meetings have been inspiring and motivating young scientists of tomorrow since 1951. The focal point of the meetings are the personal encounters between scientists of different generations and cultures. The 57th Meeting of Nobel Laureates has promoted this dialogue between the elites of today and tomorrow even further, and has taken it to new heights with elements such as the “sciences bazaar”.

I am delighted that so many young female scientists were able to assert themselves in the internationally organised, multi-stage selection procedure. For the very first time at a Nobel Laureate Meeting, half of the participants were female. Scientific excellence is scarcely achievable without the potential of these highly talented women. It is therefore particularly important to integrate leading female scientists of the future into networks of cutting-edge scientific research at an early stage. The Nobel Laureate Meetings offer a unique platform to this end.

The Council and Foundation are working together to enhance the international character of the Lindau Dialogue even further, and to put it on a secure footing through the conclusion of co-operation agreements with outstanding scientific institutions world-wide. The signing of Memoranda of Understanding with institutions in Norway, Hungary and Israel during the course of the 57th Meeting of Nobel Laureates represents another important step towards achieving this goal.

I particularly wish to extend my heartfelt thanks to the meeting‘s benefactors and donors on behalf of the Council for the Lindau Nobel Laureate Meetings and the Foundation Lindau Nobelprizewinners Meetings at Lake Constance. Institutions from the worlds of science and politics, as well as enterprises and foundations, not to forget numerous private individuals, enable the Council and Foundation to secure the long-term future of the Lindau Dialogue and to advance its development. Without their commitment, these richly traditional encounters on Lake Constance would be practically impossible to organise.

NOBEL LAUREATES PARTICIPATING

57th Meeting of Nobel Laureates
Retrospects and Prospects

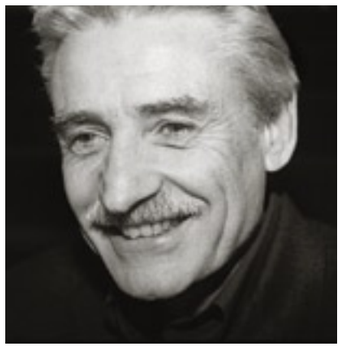
Werner Arber (SUI)
Physiology or Medicine 1978

Günter Blobel (USA)
Physiology or Medicine 1999

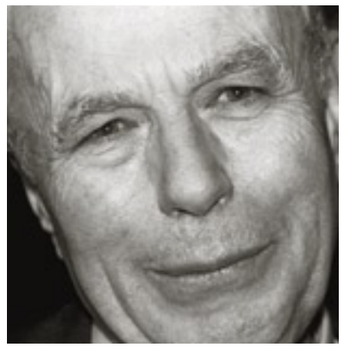
Aaron Ciechanover (ISR)
Chemistry 2004

Manfred Eigen (GER)
Chemistry 1967

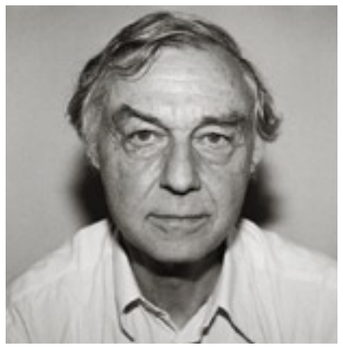
Edmond Fischer (USA)
Physiology or Medicine 1992



Leland H. Hartwell (USA)
Physiology or Medicine 2001



Avram Hershko (ISR)
Chemistry 2004



Robert Huber (GER)
Chemistry 1988

Sir Timothy Hunt (GBR)
Physiology or Medicine 2001

Craig C. Mello (USA)
Physiology or Medicine 2006

Hartmut Michel (GER)
Chemistry 1988

Ferid Murad (USA)
Physiology or Medicine 1998

Erwin Neher (GER)
Physiology or Medicine 1991

Christiane Nüsslein-Volhard (GER)
Physiology or Medicine 1995

Richard Roberts (USA)
Physiology or Medicine 1993

Bert Sakmann (GER)
Physiology or Medicine 1991

Rolf Zinkernagel (SUI)
Physiology or Medicine 1996

YOUNG RESEARCHERS' STATEMENTS

"I thoroughly enjoyed the meeting in Lindau, mostly as an opportunity to meet with other colleagues from my country and fellowship sponsor living and working abroad. While the Laureates were not as generally accessible as I had expected (often due to their „rockstar"-like treatment by some of the attendees), I did have the opportunity to really talk to a couple, and I particularly enjoyed two of the roundtable discussions. I am glad that many Laureates every year make time to come to this meeting, it is nice to see that they also see it as a unique and useful experience, and I would like to thank them for their time.
Alex Bird, USA/ HFSP FELLOW"

"The fact that only the most prominent researchers were invited to the Lindau Meeting on Physiology or Medicine 2007 and the chance to get into contact with so many outstanding scientists outshined all the meeting events in the past. I am really delighted that so many Nobel Laureates found the time to spend one week at this event, not only to talk about their research but also to share their personal view on science with us. This event turned out to be a real motivation. **Markus Rothermel, Germany**/
FELLOW OF THE GERMAN RESEARCH FOUNDATION"

"I feel deeply grateful and very privileged to be one of the 560 young scientists that were invited to the Meeting of Nobel Laureates in Lindau 2007. To not only meet with the Nobel Laureates and hear their thoughts on everything from their own research to politics, religion and personal matters but also to meet excellent young researchers from around the globe was fantastic. The mix of scientific excellence with informal discussions is a winning concept which gave me a major inspiration boost and a greatly expanded my social and scientific network. I would like to thank all the Nobel Laureates for devoting a week of their precious time to sharing their excellent research expertise with us young researchers of course, but also thank them for their thoughts on personal experiences, policy, religion and private life. I feel very privileged, inspired and eager to learn more and work even harder to find out more about my own field of research (Alzheimer's disease).
Thank you and all the best for your future research!
Henrietta M. Nielsen, Sweden/
NOBEL FOUNDATION FELLOW"

"This 57th Lindau Nobel Laureate Meeting brought me a unique opportunity to listen and learn from Nobel Laureates' lectures and visions on development of emerging areas. I have particularly enjoyed the possibility of meeting with other young researchers and students from all over the world to confront their ideas and perspectives in the development of sciences with mine. This meeting was perfectly organized and I have appreciated the availability of the Laureates and I thank them for their patience and their open mind in listening to our questions and answering as often as they can. **Elodie Lesteven, France**/ INSERM FELLOW"

"Participating in the Lindau Meeting of Nobel Laureates was an extremely interesting experience. I was able to get valuable insight from the Laureates not only about major scientific questions in general, but in particular about their experiences as young investigators. The advice I received from them is invaluable and I am sure that it will have a significant impact in my career as an independent investigator. It was particularly interesting to hear the Laureates passionately describe how they came about to the discoveries that lead to the understanding of fundamental biological processes, and to the Nobel Prize. The Laureates' openness and availability fostered very interesting discussions, especially on the afternoon sessions. The setting at Lindau was pearfect and the organization of the meeting was outstanding. Together, all this created a very relaxed atmosphere that allowed all participants to discuss freely, exchange ideas and create a network, that in my case, gave way to establishing meaningful collaborations. Having been able to participate at the Lindau Nobel Laureate Meeting is a great honor to me.
Dr. Bernardo Reina-San-Martin, Mexico/
INSERM FELLOW"

"It was an unforgettable one week stay in Lindau. I got invaluable experience and knowledge directly from the world's famous scientists. In contrast to the unfriendly weather, the meeting proved itself to bring a fresh, interactive climate in the field of physiology and medicine. Together, the Laureates and young scientists blended without barrier in the name of science. Please allow me to show my deepest gratitude to the Nobel Laureates for their time and efforts to share their magnificent thoughts with us, the young scientists. Together with science, we can bring difference to the world. **Johanes Kristianto, Indonesia**/
FELLOW OF THE INTERNATIONAL UNIVERSITY OF LAKE CONSTANCE"

"I greatly appreciated the opportunity to attend this unique international meeting and to interact with the Nobel Laureates as well as with other scientists and students from a wide variety of scientific and cultural backgrounds. The Lindau Meeting was of exceptional value for me because as a PhD student from Australia, which is geographically isolated from the larger scientific communities in Europe and America, I do not have the same opportunities and easy access to other scientists from the international community. The Nobel Laureate Meeting at Lindau has allowed me to explore new avenues in science, to gain further motivation and enthusiasm for my research, and to share my passion for science with like-minded groups of people. I enjoyed hearing about Laureates' unique personal experiences and scientific journeys both before and after winning the Nobel Prize.
Rachel Jade Lundie, Australia/ FELLOW OF THE AUSTRALIAN ACADEMY OF SCIENCE"

"The Lindau Meeting of Nobel Laureates was filled with a powerful and friendly atmosphere. Great lectures by Laureates and exciting discussions with international young scientists gave me a huge inspiration for my career. What impressed me deeply was Laureates' passion devoted to their research, as well as their efforts to utilize their great discovery for the worldwide problems such as serious diseases. The meeting told us that science should not be done for money or fame, but should be promoted for our happiness – both personally and globally.

Dr. Shinobu Yasuo, Japan/ MEXT FELLOW"

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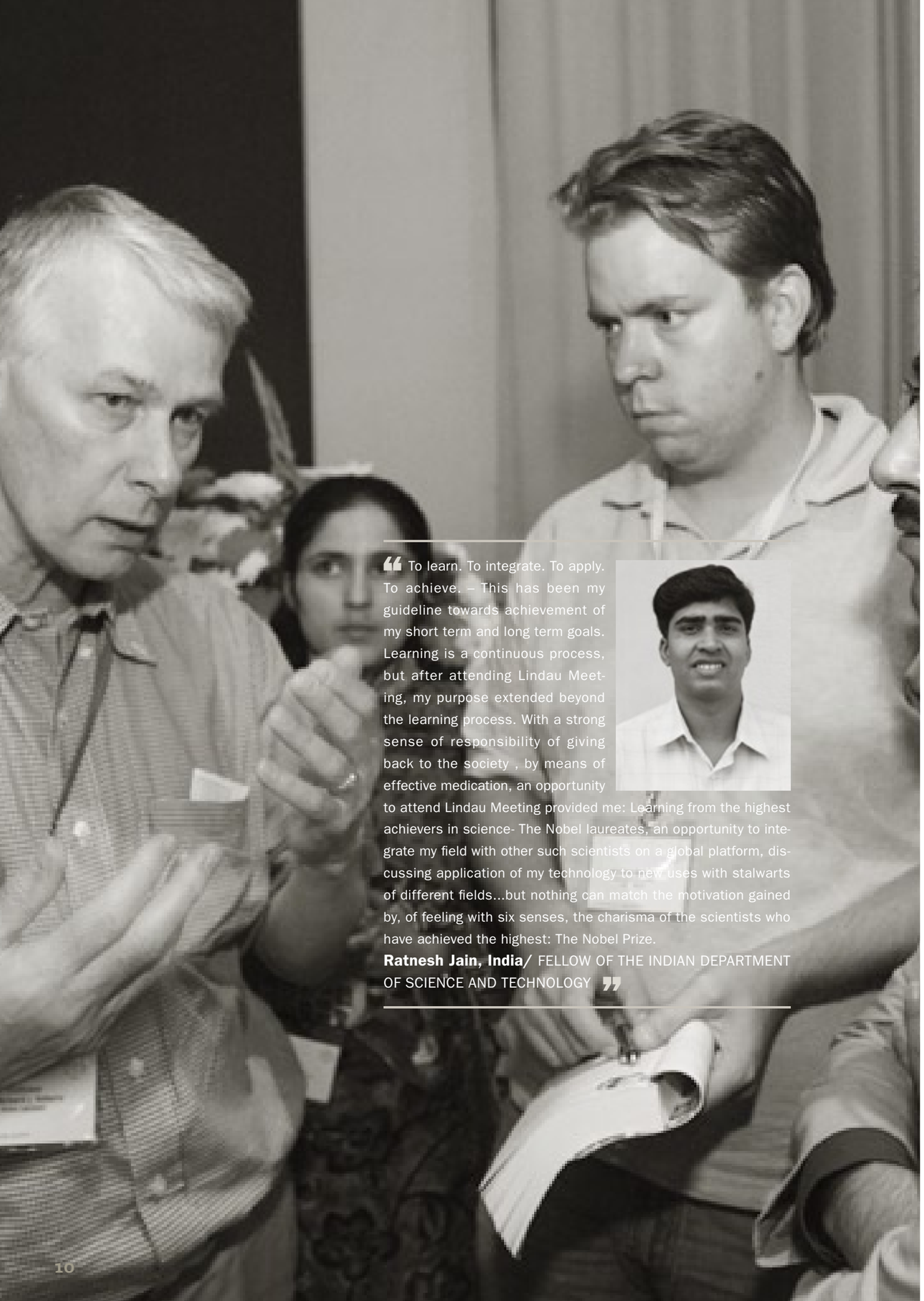


“ To learn. To integrate. To apply. To achieve. – This has been my guideline towards achievement of my short term and long term goals. Learning is a continuous process, but after attending Lindau Meeting, my purpose extended beyond the learning process. With a strong sense of responsibility of giving back to the society , by means of effective medication, an opportunity to attend Lindau Meeting provided me: Learning from the highest achievers in science- The Nobel laureates, an opportunity to integrate my field with other such scientists on a global platform, discussing application of my technology to new uses with stalwarts of different fields...but nothing can match the motivation gained by, of feeling with six senses, the charisma of the scientists who have achieved the highest: The Nobel Prize.

Ratnesh Jain, India/ FELLOW OF THE INDIAN DEPARTMENT OF SCIENCE AND TECHNOLOGY ”

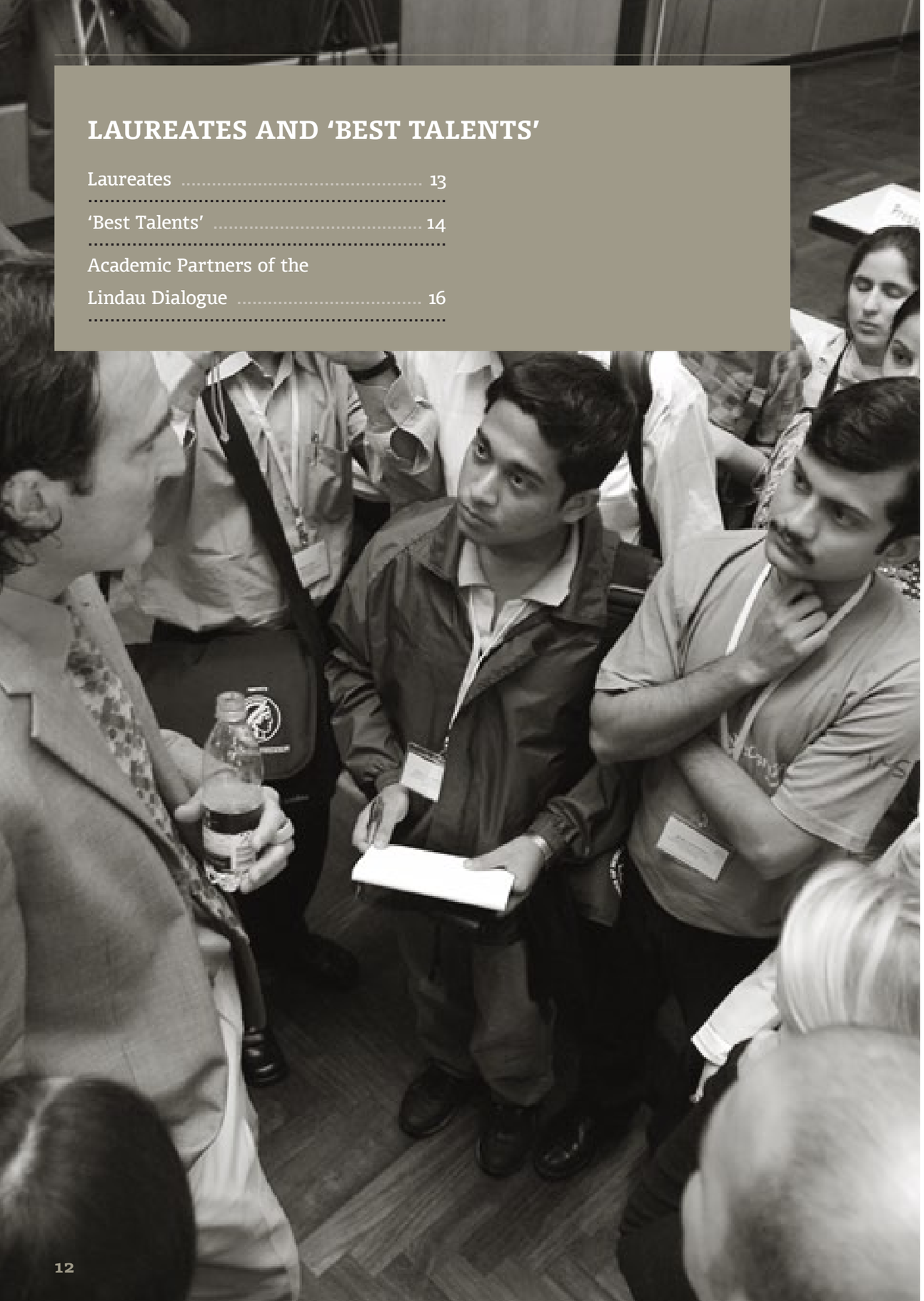
INTRODUCTION

The 57th Meeting of Nobel Laureates at Lindau took place from July 1 – 6, 2007. It was dedicated to the Laureates in Physiology or Medicine. The 17 prize holders – 12 Laureates in Physiology or Medicine and five Laureates in Chemistry – met together with 563 young scientists from 64 countries. During talks, podium discussions and the social programme events, they exchanged views on topical developments in the medical sciences and adjoining fields, discussed the ethical and social-political implications of medicine, and at the same time found inspiration and motivation for their own work. To mark the “Year of Humanities” in Germany, the main focus of this year’s meeting was on the dialogue between the natural sciences and the humanities.

The 2007 Lindau Dialogue has built bridges: between the scientific elite of today and tomorrow, between nations and cultures, between scientific disciplines. This openness in the concept of the meeting inspires participants to exchange views and ideas outside of their own fields of research with colleagues from all over the world at Lake Constance. It builds bridges and paves the way. The Nobel Laureate Meetings encourage interaction through both the actual schedule of the scientific programme, as well as the organisation of numerous events to accompany the talks and discussion groups. This year, the two Council members Professor Hans Jörnvall (Karolinska Institutet, Stockholm) and Professor Helmut Sies (Heinrich Heine University of Dusseldorf) were responsible for coordinating and organising the scientific programme.

This report provides an overview of the 57th Meeting of Nobel Laureates. The achieved standards of quality are evaluated and assessed to identify potential areas for improvement. This approach guarantees the international reputation of the meeting and ensures that Laureates and outstanding young scientists from all over the world will continue to come to Lindau in future.
The evaluation process comprises three stages. The Council carries out an initial assessment immediately after the meeting. This focuses primarily on a) the quality and composition of the scientific programme, b) the collaboration with the Academic Partners, the selection process and the scientific quality of the scientists of tomorrow, c) the media work, as well as d) the budgeting. Feedback from the Nobel Laureates who attended this year’s meeting form another part of the evaluation process. Extracts from their statements are published in this report. The third step is a survey among all young researchers. With a return rate of nearly 90 percent, the results deliver a representative picture of how the participating ‘Best Talents’ assess the Lindau Dialogue. The survey results are also published in this report (see p. 74 ff).

Professor Roberts answering questions of young researchers right after his lecture.



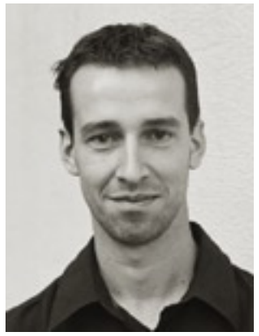
LAUREATES AND ‘BEST TALENTS’

LAUREATES AND ‘BEST TALENTS’

With Nobel Laureates from Germany, Great Britain, Israel, Switzerland and the USA, as well as 563 up-and-coming researchers from 64 countries, this year’s Nobel Laureate Meeting had a more international character than ever before. All young scientists were selected in a multi-stage selection process in co-operation with Academic Partners worldwide. Impressive evidence of the success of women in the world of science is the exceptionally high proportion of female scientists among the ‘Best Talents’.

LAUREATES

The Lindau Nobel Laureate Meetings stand for high-level science. The lectures presented by the Nobel Laureates give unusual insights into their work, describe the paths they took towards being awarded the Nobel Prize, and give an outlook on future topics of research. This year, 17 Nobel Laureates attended the Lindau Dialogue, including one Laureate who received his prize from the Swedish king, Carl Gustav XVI, as recently as December 2006, namely Craig C. Mello. With his talk “RNAi and Development in C. elegans”, he opened the scientific programme of the 57th Meeting of Nobel Laureates.



“What I think of Lindau Meeting 2007? Having the opportunity to listen to and discuss with a remarkable scientist is always interesting. A meeting with people who really made a difference on the field is, of course, even more exciting. And if this event in addition takes place in a very pleasant city with participation of a large number of young researchers from all over the world, then we are talking of a really unique event.

Jernej Jorgacevski, Slovenia/ FELLOW OF THE SLOVENIAN ACADEMY OF SCIENCES AND ARTS ”

Professor Mello discussing his talk with young researchers.

For an entire week, 12 Laureates in Physiology or Medicine and five Laureates in Chemistry provided the international science elite of tomorrow with a unique opportunity to enjoy personal encounters and discuss specialist fields. Both the Laureates and the young scientists considered the contributions from the interfaces between the medical sciences and chemistry to be an enhancement to the programme. The two 2003 Nobel Laureates in Chemistry, Aaron Ciechanover and Avram Hershko, also attended the meeting.

The inclusion of adjoining specialist fields in the mono-thematically organised Nobel Laureate Meetings reflects the increasingly interdisciplinary nature of scientific work. The dialogue between the disciplines opens up promising new paths. The talks made clear that most progress in the sciences takes place at the interfaces between the individual disciplines. For this reason, the concept of the Lindau Nobel Laureate Meetings deliberately focuses on the establishment of international networks between the ‘Best Talents’ to develop the impetus that Lindau gives to students from different fields into productive international cooperation.

The Nobel Laureates did not just talk at Lindau about their scientific work. During the course of numerous personal encounters, the panel discussions and student discussions in the afternoons, they also frequently discussed socio-political and ethical questions, as well as giving valuable tips for the careers of young scientists. Sir Timothy Hunt (2001 Nobel Prize in Physiology or Medicine) urged the young researchers to be sceptical about their own theses.

"Otherwise, others will find the weak spot," said the Briton. The American Craig C. Mello (2006 Nobel Prize in Physiology or Medicine) emphasised the importance of exchanging information among colleagues and holding discussions together, but also how valuable mistakes can be: "People who make no mistakes do not re-search." Günter Blobel (1999 Nobel Prize in Physiology or Medicine) encouraged the participants to venture to the borders of the sciences and to overcome them. „Politics is the art of the possible, science is the art of the solvable," he said, pointing the way to the gathered scientific elite of tomorrow.

The Foundation Lindau Nobelprizewinners Meetings at Lake Constance was able to welcome five new members to its founders' assembly. Leland H. Hartwell (Physiology or Medicine 2001), Avram Hershko (Chemistry 2004), Sir Timothy Hunt (Physiology or Medicine 2001), Craig C. Mello (Physiology or Medicine 2006) and Rolf Zinkernagel (Physiology or Medicine 1996) now belong to a total of 174 Nobel Laureates who, through their membership of the body, demonstrate their support for the principle of the Lindau Nobel Laureate Meetings.

Ferid Murad, Physiology or Medicine 1998

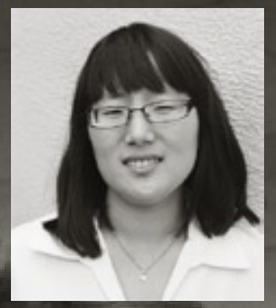
"I view the Lindau Meeting as a very important mechanism to influence young students and help shape their career plans. However, I thought the meeting was quite large with the number of students and Laureates attending. I wonder if the meeting wouldn't be more effective with fewer Laureates and students. With a smaller group there could be more opportunity for interaction in small group meetings, meals, and social functions."

'BEST TALENTS'

563 highly gifted young researchers from 64 countries attended the meeting, among them 339 from Europe, 104 young scientists from Asia and 81 young researchers from North America. The Arab states sent 18, Latin America eight, Australia seven and Africa six researchers. Having been nominated by universities, foundations or international research institutes, they have all successfully passed a multi-stage and international selection procedure. Young scientists from Bangladesh, Jordan, North Korea and Syria attended for the first time.
An important indication of just how successful women are in the world of science is the fact that 283 female young scientists (or 50%) attended the 57th Nobel Laureate Meeting.

The number of applications to attend the Lindau Dialogue continues to rise. The 31 Chinese scientists at the meeting, for example, were selected from more than 20,000 young researchers in their native country. Academic Partners worldwide organise national selection procedures. 48 institutions in 40 countries, the Marie Curie Programme of the European Commission, international organisations such as EMBO (European Molecular Biology Organization), HFSP (Human Frontier Science Program) and WHO (World Health Organization), as well as more than 50 German universities, foundations and research organisations, put forward the names of young scientists to the Council's Review Panel. The collaboration with these prominent scientific facilities ensures that a representative cross-section of the world's best up-and-coming researchers meet Nobel Laureates at Lake Constance.

The Lindau Dialogue: Professor Ciechanover and a young scientist.



"Meeting with Nobel Laureates and discussing with them was really an encouraging experience. The idea of bringing the nations together is even better, and personally I had so much fun meeting people from all over the world I am sure it was the best week of my life so far. **Nina G. Helberg, Norway**/ NOBEL FOUNDATION FELLOW"

Professor Annik M. Myhre (next to **Countess Sonja Bernadotte), Professor Wolfgang Schürer** (right) and Norwegian young scientists.

Dr. Attila Zsigmond (right) signed the Memorandum of Understanding on behalf of the Hungarian Academy of Sciences.

ACADEMIC PARTNERS OF THE LINDAU DIALOGUE

The international network of Academic Partners is undergoing continual and consistent expansion. During the meeting, Foundation and Council signed three new Memoranda of Understanding: with the Norwegian National Meeting of Science Faculties and the Hungarian Academy of Sciences on July 1, 2007 at Lindau, as well as with the Weizmann Institute (Israel) on July 6, 2007, on the Isle of Mainau. Countess Sonja Bernadotte, President of the Council, and Professor Wolfgang Schürer, Chairman of the Board of the Foundation, greeted Professor Annik M. Myhre from the Norwegian National Meeting of Science Faculties, Dr. Attila Zsigmond from the Hungarian Academy of Sciences and Professor Daniel Zajfman, President of the Weizmann Institute, to the signing ceremonies.

The signing of these Memoranda expresses the common desire to make it possible for highly talented young scientists from these countries to participate at the Nobel Laureate Meetings in Lindau. These three organisations from Norway, Hungary and Israel, just like partner institutions in Australia, China, India, Indonesia, Malaysia, Pakistan, Poland, Slovenia and the USA, hold national competitions for students wishing to attend the Lindau Dialogue. Adherence to the stringent Lindau selection criteria is a crucial proviso of the collaboration agreement.

As a delegate of the President of the Council, Dr. Rainer Gerold is responsible for initiating new cooperation agreements and maintaining existing partnerships. Contacts and negotiations that led, or will lead, to the signing of a Memorandum of Understanding were also initiated by Professor Wolfgang Schürer, a member of the Council and the Chairman of the Foundation's board.

During the conference, a meeting was held between representatives of the Academic Partners and members of the Council to discuss the nomination and selection process. To continue to be able to master the rising number of applicants in the future, trustworthy collaboration between the national cooperation partners and the Council and Foundation is of particular significance. This year, one question that was intensively discussed was whether the total number of participants could be increased to allow more young researchers to attend. The Council's representatives made it clear that this would be detrimental to the uniqueness of the Lindau Dialogue and the opportunities for personal encounters between

Richard J. Roberts, Physiology or Medicine 1993

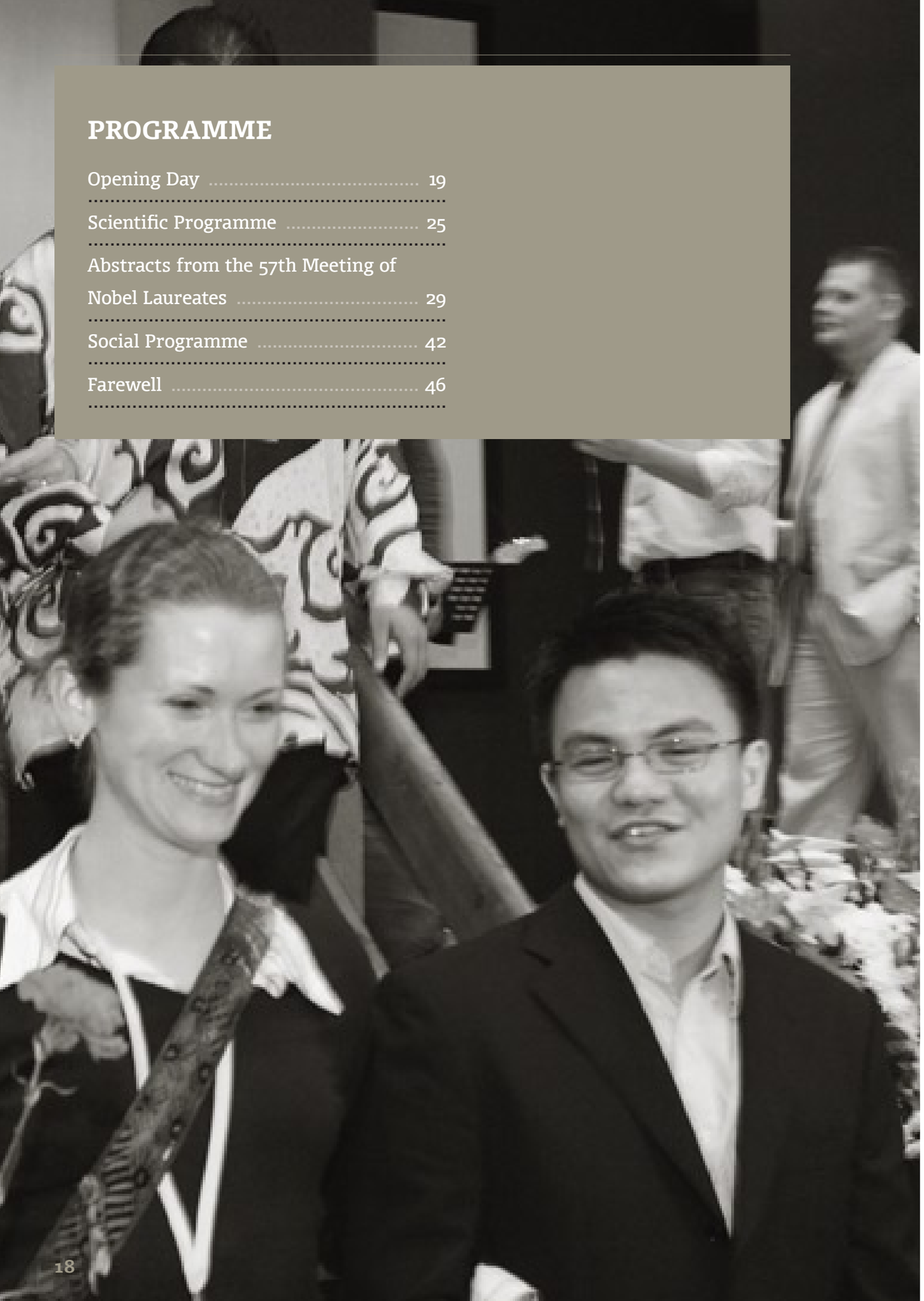
> As usual I very much enjoyed the Lindau Meeting this year. My only real criticism concerns the panel discussion that was scheduled during the dinner on the Monday night.
> At my table - and most others that I noticed - conversations were already in full flight when the panel was announced. This had the effect of stopping some stimulating conversations and not providing any topics of interest.
>
> The dinners with the students at a local restaurant were not as well planned as they might have been. At my dinner there were many Nobel Laureates, while at others it seemed there were not enough. This is probably best avoided by the organizers of the meeting designating who should go where ahead of time rather than letting us choose.
>
> I did think the sessions were well chosen this year and the various other activities were excellent.

the young researchers and Laureates. The balance between the Nobel Laureates and young scientists is of vital importance to the overall concept and quality of the Nobel Laureate Meetings in Lindau. The transmission of the scientific programme by the European Broadcasting Union will, in future, open up a broad range of possibilities for enabling all those scientists who do not belong to the chosen 500 to participate in the programme on a virtual basis.

Professor Daniel Zajfman (sitting, left), **Nobel Laureate Professor Avram Hershko** (centre, standing) and Israeli scientists participated in the signing ceremony on the Isle of Mainau.

This year, the Council's Review Panel comprised the Council members Professor Helmut Sies and Professor Hans Jörnvall, who were also the scientific coordinators of the meeting, together with Professors Burkhard Fricke, Wolfgang Lubitz and Jürgen Uhlenbusch. They were assisted in reviewing the profiles by Andreas Schmidt and Dr. Leonore Uhlenbusch. At the office in Lindau, Nadine Gärber and Elisa Mussack were responsible for looking after the needs of the young researchers.

The ongoing internationalisation of the circle of participants received an extra impetus with an information meeting for ambassadors to Germany held in Berlin on May 10, 2007. Countess Sonja Bernadotte, together with other members of the Council, met the ambassadors of Australia, Brazil, the Czech Republic, Egypt, India, Lithuania, Mexico, Sweden and Switzerland, as well as Dr. Gerhard Sabathil (Director-General of the Representation of the European Commission in Germany) and Assistant Under-Secretary of State Rolf-Dieter Schnelle (Deputy Director-General for Culture and Education at the German Foreign Office). The discussions that were held on this occasion not only consolidated contacts with countries where partnerships are already in place, but at the same time also laid the cornerstone for new cooperation projects. Memoranda of Understanding with institutions in Brazil, Egypt, Mexico and Switzerland are currently under preparation.



PROGRAMME

PROGRAMME

The Lindau Nobel Laureate Meetings stand for science of the highest level for the research elite of tomorrow. They promote dialogue between highly-gifted young scientists and Nobel Laureates. The imparting of knowledge, motivation and inspiration characterises these globally unique meetings on Lake Constance. New elements in the concept of the meeting – the discussion on building a bridge between the natural sciences and humanities, the 'science bazaar' and the presentation of the partnering state North Rhine-Westphalia as a seat of science – offered further opportunities for personal encounters.

OPENING DAY

The ceremonial opening of the 57th Meeting of Nobel Laureates in Lindau took place on July 1, 2007, in the Inselhalle congress centre. Personalities from the worlds of science, politics and industry took part this year as well. The Philippine ambassador to Germany, H.E. Delia Domingo Albert, and the Swedish ambassador to Switzerland, H.E. Per Thöresson, were among the guests at the opening day, as were Otmar Hasler, Chairman of the International Lake Constance Conference and the Prime Minister of Liechtenstein, Dr. Angelika Niebler, Member of the European Parliament, and Pamela Mars Wright, Chairperson of the Board of Directors of Mars, Inc.

Opened by Countess Sonja Bernadotte.

Countess Sonja Bernadotte, the President of the Council, opened the 57th Meeting of Nobel Laureates. She called on the participants to make intensive use of the forthcoming week for discussions, and emphasised the international character of the Lindau Dialogue: "The Lindau Meetings are truly international. It gives me great satisfaction that in the long history of Lindau, this year's meeting is the most international ever: 563 students and young researchers from 64 countries are present, and let me add that half of these are highly-qualified young women. Moreover, the lectures will be broadcast to a wide international audience by the Eurovision Network. In this sense, the Lindau Meetings are becoming a high point of European research policy, as Dr. Janez Potocnic, EU Commissioner for Science and Research, described during his visit in Lindau last year: 'a research-oriented Europe that is connected to the world, co-operating and sharing knowledge with the best groups outside Europe'. So it is only logical that the European Commission has included the Lindau Meetings in the Seventh Framework Programme." The positioning of the Lindau Nobel Laureates Meetings as "an international platform of excellence, a globally unique venue for dialogue and intergenerational scientific interaction" continues, said the President, to remain a task for the Council and the Foundation.

Countess Sonja Bernadotte used her opening address to say farewell to the long-standing head of the Council's secretarial office, Mrs. Isabella Schielin. She has been central in organising the meetings for 25 years, and during this time she has become a "veritable rock for the meetings", said the President of the Council. At the same time, she welcomed Dr. Andreas Gundelwein as Executive Secretary of the Council - a position he took up in November 2006 – and his deputy, Christian Rapp.

Award of the Lennart Bernadotte Medal.

Afterwards, Countess Sonja Bernadotte presented the Lennart Bernadotte Medal to Michael Sohlman, Executive Director of the Nobel Foundation, in hon-

our of his services to the Lindau Nobel Laureate Meetings. “It was he who opened the door wide to fruitful co-operation between the Nobel Foundation and the Lindau institutions by inviting the Council in the spring of 1998 to Stockholm for the first time. This personal encounter fostered and deepened the relationship between Stockholm and Lindau. Members of the Nobel Institutions in Stockholm become more involved in the internationalisation of the Lindau Meetings as Members of the Council for the Lindau Nobel Laureate Meetings.”

In his speech of thanks, Michael Sohlman expressed his recognition of the extraordinary commitment of Count Lennart Bernadotte, spiritus rector of the Nobel Laureate Meetings, in whose memory the medal is awarded for special services towards the advancement of the Lindau Nobel Laureate Meetings. He described him as somebody “who became by his own efforts a prince in the republic of arts and humanities”. Under the presidency of Count Lennart Bernadotte, and since 1987 under that of his wife, Countess Sonja Bernadotte, the Nobel Laureate Meetings have developed from a regional event into a conference with a “clear international dimension” where young scientists have the unique opportunity “not only to listen to, but to meet Nobel Laureates”. Michael Sohlman underlined the fact that the Swedish institutions that award the Nobel Prize and the Nobel Laureate Meeting bodies operate independently of one another, but that an “excellent informal co-operation” exists between them. This is characterised by, among other aspects, the nomination of highly-gifted young scientists by the Nobel Foundation to participate at the Nobel Laureate Meeting, and the fact that the Secretaries of the Nobel Assembly of the Karolinska Institutet are members of the Council (for example Professor Hans Jörnvall, who together with Professor Helmut Sies was the scientific co-ordinator of the 57th Nobel Laureate Meeting).

Podium for “Natural Sciences and the Humanities”.

To mark the “Year of the Humanities” in Germany, the Council and the Foundation invited representatives from the natural sciences and humanities to a podium discussion held during the course of the opening event. Professors Otfried Höffe (Eberhard-Karl University, Tübingen), Fotis C. Kafatos (President of the European Research Council, Brussels), Lord Rees of Ludlow (President of the Royal Society, London) and Peter Strohschneider (Chairman of the Science Council, Bonn) discussed the building of a bridge between the disciplines.

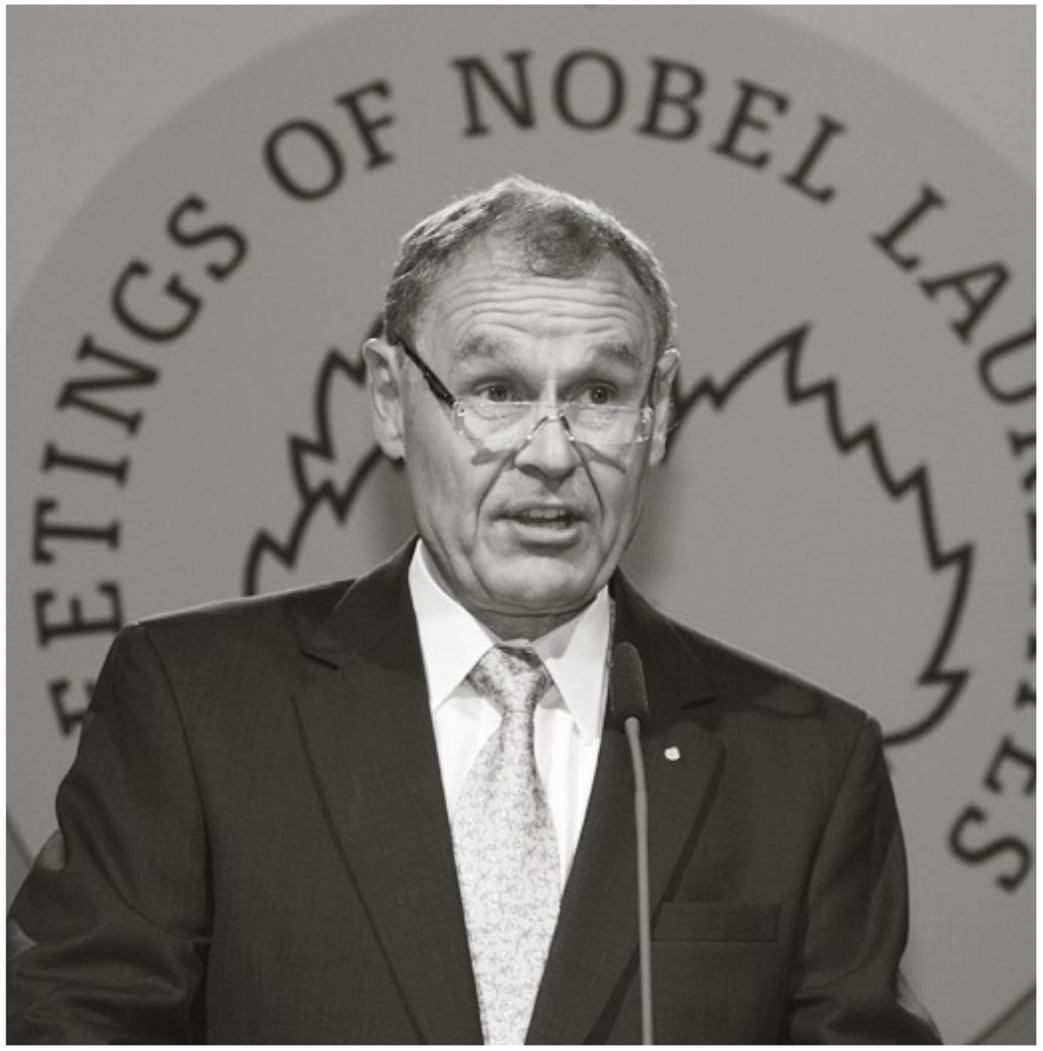
“We all create an awareness for understanding and preserving the world. We are all explorers of the earth, of the truth,” said the President of the European Research Council, Fotis C. Kafatos. The philosopher Otfried Höffe reminded the audience that the cradle of all the sciences stood in the schools of thought of ancient Greece, and that they all have common fundamental characteristics. With what

“In your adolescence you play music, dreaming that one day you will meet with all the big rock stars. In your late 20s, early 30s, thinking more maturely and wittingly you pursue research in your lab, dreaming that one day you will meet with your new role models. Thanks to the visionary Count Lennart Bernadotte I had the chance to meet 17 Nobel Laureates and discuss with them scientific, social and even personal issues. In a way both my dreams came true because these Laureates rock! I was truly impressed by the ingenuity, but also the modesty and the social awareness of the Laureates. I am also thankful for the multi-cultural and inter-disciplinary grounds of my new friendships with other young researchers. I feel deeply honoured and grateful to the Countess, the Council, the Foundation, the Nobel Laureates, the Medical Research Council UK and Imperial College London for the opportunity they gave me to have this “once-in-a-life-time” experience.”

Ioannis Spyridon Gousias, Greece/ FELLOW OF THE MEDICAL RESEARCH COUNCIL (GREAT BRITAIN)

Countess Sonja Bernadotte opened the 57th Meeting of Nobel Laureates.

Personalities from the worlds of science, politics and industry took part in the opening ceremony.



Michael Sohlman, Executive Director of the Nobel Foundation, received the Lennart Bernadotte Medal in honour of his services to the Lindau Nobel Laureate Meetings.

Countess Bettina Bernadotte, Michael Sohlman, H.E. Per Thöresson and **Countess Sonja Bernadotte** (from left) at the Inselhalle.

Dr. Angelika Niebler (right), Member of the European Parliament, and **Petra Meier to Bernd-Seidl,** Mayor of Lindau.

Harold Schmitz and **Pamela Mars Wright** during the reception of the City of Lindau.

Nobel Laureate **Professor Aaron Ciechanover** (left) with **Dr. Ingrid Wünning** from the Robert Bosch Stiftung during the reception of the Foundation at the Hotel Bad Schachen.

Professors Otfried Höffe, Lord Rees of Ludlow, Peter Strohschneider and **Fotis C. Kafatos** discussed the relations between natural sciences and humanities.

were probably Aristotle's most famous words, Höffe pointed to such a common characteristic: "All men by nature desire knowledge."

Peter Strohschneider said that the humanities and natural sciences are more closely related than most people realize. "In contrast to nature, the natural sciences are a product of culture," he says. The humanities and the natural sciences are far less removed from one another than is the case with nature and the natural sciences. Höffe counters the objection from Martin Rees, President of the Royal Society, that naturalists produced indisputable knowledge world-wide on the principle of a division of labour, whereas humanitarian scientists tend to shine more as individuals. "The humanities are also to be found in all cultures," he says, just like astronomy or genetics. However, Höffe postulated that philosophers who do not want to talk nonsense when dealing with questions of medicine must be familiar with the basics of natural sciences, and that this conversely also applies to natural scientists.

The dialogue between the natural sciences and the humanities formed a main focal point of the 57th Meeting of Nobel Laureates. Whether at the lectures or during the student and podium discussions, the social, political and ethical implications of the life sciences were the subject of many lively conversations. The attention of the participants and residents of Lindau was also excited by a public campaign organised in collaboration with the Federal Ministry of Education and Research. Signs on the roads leading into the town and banners with missing letters were designed to be thought-provoking, and at the same time highlighted the importance of the humanities as the "ABC of humanity".

Banquet given by the Foundation.

On the evening of July 1, the Board of the Foundation Lindau Nobelprizewinners Meetings at Lake Constance invited the Laureates, representatives from the fields of science, industry and public life, benefactors, donors and the members of the Council to a banquet at Hotel Bad Schachen. This provided an opportunity for numerous personal encounters and conversations.

In his address, Professor Wolfgang Schürer, Chairman of the board of directors of the Foundation Lindau Nobelprizewinners Meetings at Lake Constance, greeted the new members of the Foundation's founders' assembly (Laureates Leland H. Hartwell, Avram Hershko, Sir Timothy Hunt, Craig C. Mello and Rolf Zinkernagel, see also p. 14) as well

Eleven of the 17 Nobel Laureates participating: **Countess Sonja Bernadotte** (centre) with **Professors E. Fischer, C. Nüsslein-Volhard, M. Eigen, F. Murad, B. Sakmann** (front row, from left) and **Professors L. H. Hartwell, A. Ciechanover, H. Michel, W. Arber, C.C. Mello** and **Sir T. Hunt** (second row).

as the new Principal Patrons of the Foundation's fund (Deutsche Bank AG, Lonza and Mars, Inc. see also p. 49). The progress made by the Lindau Dialogue would not be possible without the commitment of renowned personalities and enterprises such as these. According to Professor Schürer, the successful development of the Nobel Laureate Meetings over the past years is to be attributed to the excellent co-operation between the Foundation and the Council. He paid special thanks to the President of the Council, Countess Sonja Bernadotte, and Vice-president Professor Jürgen Uhlenbusch. The Council and Foundation work together to realise the vision of the spiritus rector of the Nobel Laureate Meetings, Count Lennart Bernadotte.

The Prime Minister of Liechtenstein and Chairman of the International Lake Constance Conference (IBK), Otmar Hasler, then welcomed the guests to Lake Constance. He described the Nobel Laureate Meeting as "a highlight scientific and academic event for the Lake Constance region". It is in the interests of all members of the IBK to publicise the meeting and to, "more particularly, find ways by which we can facilitate the dissemination of the insights coming out of the Nobel Laureates' Meeting. This is one of the objectives of the IBK, the International Lake Constance Conference, which intends to facilitate cross-border meetings within the Lake Constance region and aims to strengthen the feeling of belonging within this unique area. This is why the IBK supports this annual meeting of Nobel Laureates and provides a specific sponsorship contribution to it." One year ago, explained Prime Minister Hasler, the member countries of the IBK decided to support the Nobel Laureate Meetings until 2009. The decision as to whether support is continued after this date is due to be made in 2008.

"It was an honour to be allowed to take part in such an event. Not only was it an amazing opportunity to listen to and talk with great minds about science, but also the chance to interact with other students, from different fields and countries and feel understood, was very exciting. It was a very stimulating week and I'm only sorry that I cannot do it again. **Michele Cristóvão, Portugal**/ MARIE CURIE FELLOW"

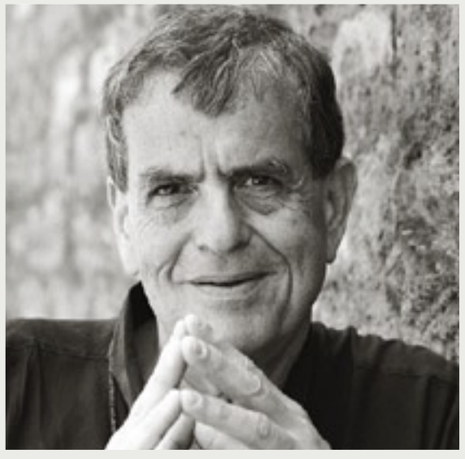
SCIENTIFIC PROGRAMME

The scientific programme of the 57th Nobel Laureate Meeting was opened on Monday, July 2nd with a talk by Professor Craig C. Mello (Medicine or Physiology 2006). Lectures, podium discussions, the afternoon discussion groups and the 'sciences bazaar' held through to the following Thursday afternoon offered insights and outlooks. The dialogue between the generations of scientists extended far beyond specialist subjects. In Lindau, young scientists took this unique opportunity to receive valuable suggestions for their own research from the leading lights of their fields, or to discuss topical developments in society and politics with the Laureates. The programme concept of the Lindau Nobel Laureate Meetings specifically focuses on providing as many different opportunities as possible for personal encounters during the scientific programme as well.

With the inaugural 'sciences bazaar', the Council presented a new forum within the scope of the scientific programme dedicated to this aspect. On Tuesday afternoon, the venue of the Nobel Laureate Meeting, the Inselhalle, was transformed into a lively and diverse 'marketplace for the sciences'. 13 Nobel Laureates answered questions from the international scientific elite of tomorrow, discussing current research issues and giving valuable tips for a career in the sciences. During the 'sciences bazaar', the young scientists were able to easily move between the different conversation groups, experiencing unique and varied impressions and views.

The topics of the 13 morning lectures were addressed in more detail in the afternoon discussion groups. These are attended exclusively by the Nobel Laureates and the young researchers of tomorrow. The openness and diversity of the topics of these encounters are a significant element of the special atmosphere of the Lindau Dialogue. Whereas the Nobel Laureates choose the subjects of their talks themselves, the student discussions give the young scientists the chance to influence the direction of the programme. Detailed technical questions are just at home here as are the discussion of social or ethical questions and recommendations for the scientific careers of the 'Best Talents'.

In addition to the 'sciences bazaar', lectures and student discussions, two podium discussions with Nobel Laureates this year once again formed part of the programme. The third top-class panel discussion was held during the opening event (cf. p. 20 ff).



Aaron Ciechanover, Chemistry 2004

"The Lindau Meetings are going from strength to strength, the students are excellent, and I am not sure how much I can teach, but I know how much I learn myself and take home – in knowledge, but mostly in the importance of education and dialogues as wonderful efficient tools for bringing peace and bridge over stormy political waters and differences. Knowledge and friendship know no boundaries and one of the strengths of the Lindau Meetings is fostering these values."

Discussing „Basic Science in Molecular Medicine“: **Professors Günter Blobel, Leland H. Hartwell, Helmut Sies, Anders Zetterberg, Sir Timothy Hunt, Craig C. Mello** (from left).

Panel discussion
“Basic Science in Molecular Medicine”.

On Tuesday, the subject of the podium discussion was „Basic Science in Molecular Medicine“. Gathered on the stage were Günter Blobel (Physiology or Medicine 1999), Leland H. Hartwell (Physiology or Medicine 2001), Sir Timothy Hunt (Physiology or Medicine 2001) and Craig C. Mello (Physiology or Medicine 2006). The discussion was moderated by Helmut Sies and Anders Zetterberg.

Hopes linked with molecular medicine for a better understanding of the molecular principles of illnesses and greater diagnostic precision have moved it further into public focus. The panel members emphasised the importance of basic research to scientific progress. Günter Blobel stated: “What we know is not much.” He urged the next generation of young scientists to continue investigating the basic principles of medicine. Leland H. Hartwell, who has himself been active in basic research for more than 30 years, described the challenges: “We need to be able to measure things much more precisely.” Here, the knowledge gained from learning how cells function could in future acquire special significance if they can be utilised for diagnostic purposes. Proteome research and progress in molecular detection diagnostics show promising traits which could revolutionise the field of diagnostics. Craig C. Mello referred to genetic therapy as a “sleeping giant” offering opportunities of gigantic proportions. At the same time, he pointed out that even in highly-developed countries such as the USA, such therapies could lead to a two-class society as far as medical care is concerned. High-tech medicine is expensive. Scientists should keep such problems in mind. “We need to broaden our thinking here,” said the Laureate. Günter Blobel also called on scientists to demonstrate social responsibility: Scientists must communicate with the general public, “otherwise ignorance will increase.”

The audience eagerly took the chance to pose questions. How do the Nobel Laureates cope with setbacks, a young scientist wanted to know. Sir Timothy Hunt replied that, initially, most experiments are unsuccessful. The most important thing is to always check one’s own results critically. “Wishful thinking is the enemy of good science,” said Hunt. Both Günter Blobel and Craig C. Mello emphasised that failures are part of science. “That is why they call it re-search”, said Mello, adding that scientists have to be “humble enough to try again”.

One of the other participants asked the Nobel Laureates on the panel where they would perform research if they were a Ph.D. student: in basic research or molecular medicine. Leland H. Hartwell encouraged those attending the Nobel Laureate Meetings to allow themselves to be guided by their interests, and not by apparent career opportunities. Günter Blobel agreed with him by quoting the words of Albert Einstein: According to the Nobel Laureate, the most important thing is to be “patiently curious”. Sir Timothy Hunt stressed the antagonism which every

Societal implications of medical sciences were discussed by **Professors Erwin Neher, Richard Roberts, Helmut Sies, Hans Jörnvall, Ferid Murad, Avram Hershko** and **Edmond Fischer.**

researcher, whether in basic research or molecular medicine, has to cope with: On the one hand the driving urge to investigate something new, and on the other the challenge to display the necessary commitment, even in the face of disappointment.

This exceptionally open and lively discussion group closed with an appeal from the members of the panel for scientists to work together and exchange information and ideas. One young scientist asked the panel how an open atmosphere of discussion, which at the same time would eliminate the possibility of a scoop, could be created in such a competitive environment as research. Craig C. Mello viewed the chances of the exchange of information and conversation among colleagues as being greater than the resultant risks. Working together with other colleagues helps to attain the next “level” in research. Concurring, Leland H. Hartwell called such scoops an “overweighed threat”. According to Sir Timothy Hunt, cooperation with other researchers is always a real enrichment of one’s own work. This was something he did not want to lose out on. After all, from this developed a relationship “almost like a love affair”.

Panel discussion
„Medical Sciences and Society“.

This second panel discussion with the Nobel Laureates took place on Thursday. On the panel were Edmond Fischer (Physiology or Medicine 1992), Avram Hershko (Chemistry 2004), Ferid Murad (Physiology or Medicine 1998), Erwin Neher (Physiology or Medicine 1991) and Richard Roberts (Physiology or Medicine 1993). The discussion was moderated by the two scientific co-ordinators of the 57th Meeting of Nobel Laureates, Hans Jörnvall and Helmut Sies.

In their opening statements, the Laureates picked out different problem areas arising from the interplay between medicine and society as the central theme. Professor Neher pointed out that still not enough is known today about how the brain functions, and there is therefore “a big need for research” in this field. Nevertheless, consideration has to be shown for ethical questions. Professor Roberts mentioned another aspect of the tension to be found in the interaction between medicine and society. As a winner of the Nobel Prize, said the Laureate of 1993, one can use the fame acquired with the prize “to influence society in a good way”. He reported on his efforts towards gaining the release of six Bulgarian nurses who had been accused of deliberately infecting more than 400 Libyan children with the HI virus. In a letter, together with 120 other Nobel Laureates, he had asked Libya to take into consideration in the case the available scientific investigations.

Professor Murad urged his scientific colleagues to be “more interactive”: “We need to do a much better job here.” Society supports scientists’ work in many different ways, which means that in turn society needs to be informed about “what we do, why we do it, why we are excited about it.” The media, which Professor Murad criticised for their working meth-

ods characterised by deadlines and sensationalism, occupies an important mediating position here. He urged them "to be correct". The release of articles and interviews by scientists could also contribute to a more objective reporting of scientific results. The need for more intercommunication with society was underlined by Professor Hershko in his opening statement. Every scientist has a "duty to communicate with society", and whoever does so, said the Nobel Laureate, should point to the importance of basic research. Many laymen simply do not understand how vital it is to the development of new medicines and therapies.

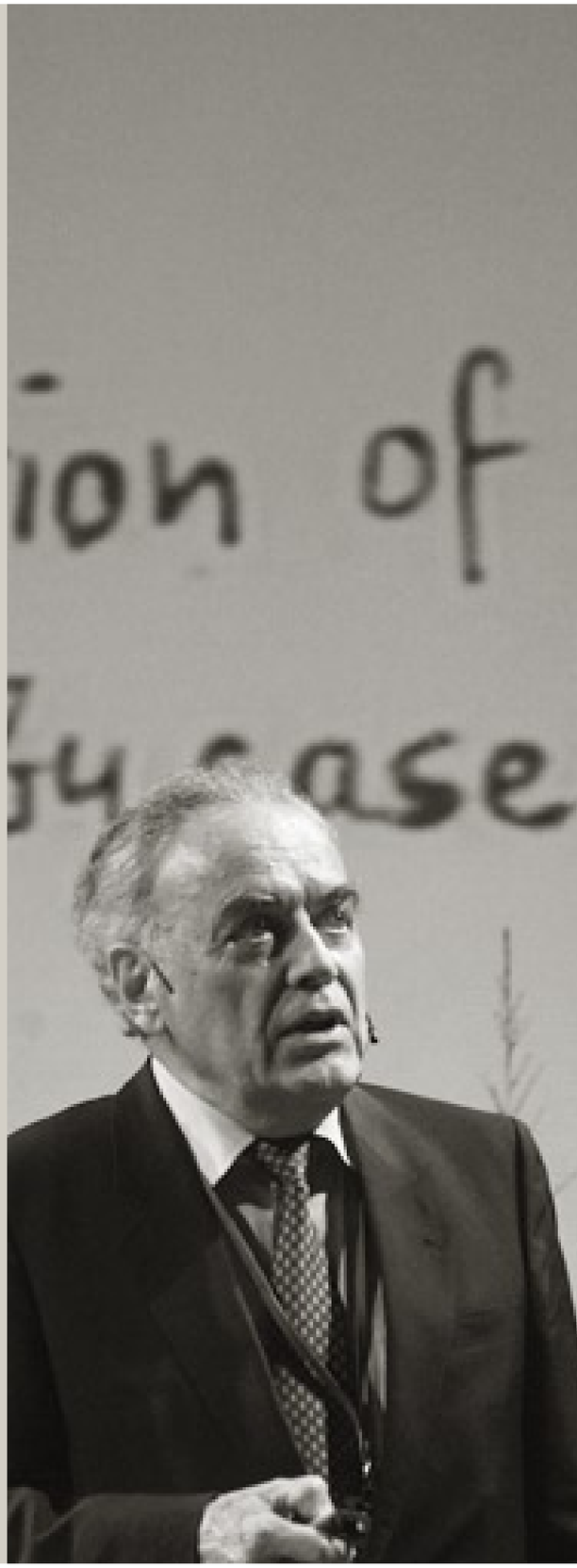
"How to deal with world hunger under an ever growing world population?" asked Professor Fischer at the beginning of the podium discussion. And he added another subject area which will determine the future relationship between the medical sciences and society: the handling of human embryonic stem cells. He argued in Lindau for their use in research, despite the associated "personal, emotional, ethical, religious problems" and "irrational political considerations". During the course of the panel discussion, Professor Fischer made his views quite clear: "I absolutely see no immorality whatsoever of using embryonic stem cells when they could give a measure of hope to people that perhaps then could be cured one day." What would be immoral, on the other hand, would be to want to renounce the knowledge that could be gained from research into this material. Professor Neher also agreed with this appraisal. The perception of such problem areas continues to develop, and therefore "the developing of ethics and norms has to be tightly connected with human perception".

One of the last questions put to the panel brought the relationship between medicine and society back to bear on the Nobel Laureates themselves. A young scientist wanted to know whether the Nobel Laureates should not unite to enable them to achieve more together. Professor Roberts considered the present form of "informal fashion" to be adequate. Indeed, society had decided that Nobel Laureates are "a special group". And with a look at the young scientists of tomorrow present in the hall, he said: "Really, we are not different from any of you. (...) We are just the same as you guys." His colleagues on the podium agreed with him.

"The opportunity I had in this meeting was a dream coming true. It highly enriched my insight and directed my attention to very important issues in life, science, and research. I will certainly have much more ideas to offer my students after this meeting. Another important aspect is that the meeting crossed all political bridges and left no place for race, religion, or ethnicity to be a barrier for human cooperation, dialogue, and exchange of ideas. I am deeply thankful to the Nobel Laureates for spending one week of their precious time with us, and to the organizers for a job well done. **Dr. Khalid El-Salem, Jordan/**
FELLOW OF THE JORDAN UNIVERSITY OF SCIENCE AND TECHNOLOGY"

All the podium discussions from the 57th Meeting of Nobel Laureates can be viewed in full length at www.lindau-nobel.de together with the lectures from this year's meeting, as well as those from 2005 and 2006.

ABSTRACTS FROM THE 57TH MEETING OF NOBEL LAUREATES



Professor Werner Arber

DARWINIAN EVOLUTION AS UNDERSTOOD BY SCIENTISTS OF THE 21ST CENTURY

After a short reminder of the historical development of evolutionary biology, elements to a molecular theory of Darwinien evolution will be presented. Biological evolution is driven by the availability of genetic variants in populations. The occasional generation of genetic variants is brought about by cooperative actions of products of evolution genes and of non-genetic elements. Three qualitatively different natural strategies (local sequence change, intragenomic rearrangement of DNA segments, and DNA acquisition by horizontal gene transfer) contribute each with a few specific mechanisms to the overall mutagenesis. World view aspects and medical implications will be mentionned.

Professor Günter Blobel

NUCLEO-CYTOPLASMIC TRAFFIC ACROSS THE NUCLEAR PORE COMPLEX (NPC)

Bidirectional macromolecular traffic between the cytoplasm and the nucleus occurs exclusively through the Nuclear Pore Complex (NPC). In mammalian cells, the NPC has a molecular mass of about 100 million daltons and is located in circular openings (100 nm diameter) of the nuclear envelope. Thirty proteins form a pseudo-symmetric structure with an eight-fold symmetry in a nucleo-cytoplasmic axis and a two-fold symmetry in the plane of the nuclear envelope. Architecturally, the NPC is composed of eight spokes that emanate from a central channel (40 nm diameter) and connect to the pore membrane, the sharp bend connecting the inner and outer nuclear envelope membrane. Crystallographic analysis has revealed that some proteins that line the central channel of the NPC contain highly conserved amphipathic alpha helices with large hydrophilic residues on one side of the helix. In a tetramer of the nucleoporin Nup58/45, the large hydrophilic residues of two antiparallel helices, each from one monomer, form one surface that interacts with two antiparallel helices, each from one monomer, in the other opposing surface. Distinct laterally displaced conformers in the tetramers were detected in the same crystal, suggesting sliding of helical surfaces along an 11 Angstrom pathway. As eight tetramers are circumferentially arranged around the central transport channel of the NPC, sliding of each tetramer would result in a flexible diameter of the central channel of the NPC.

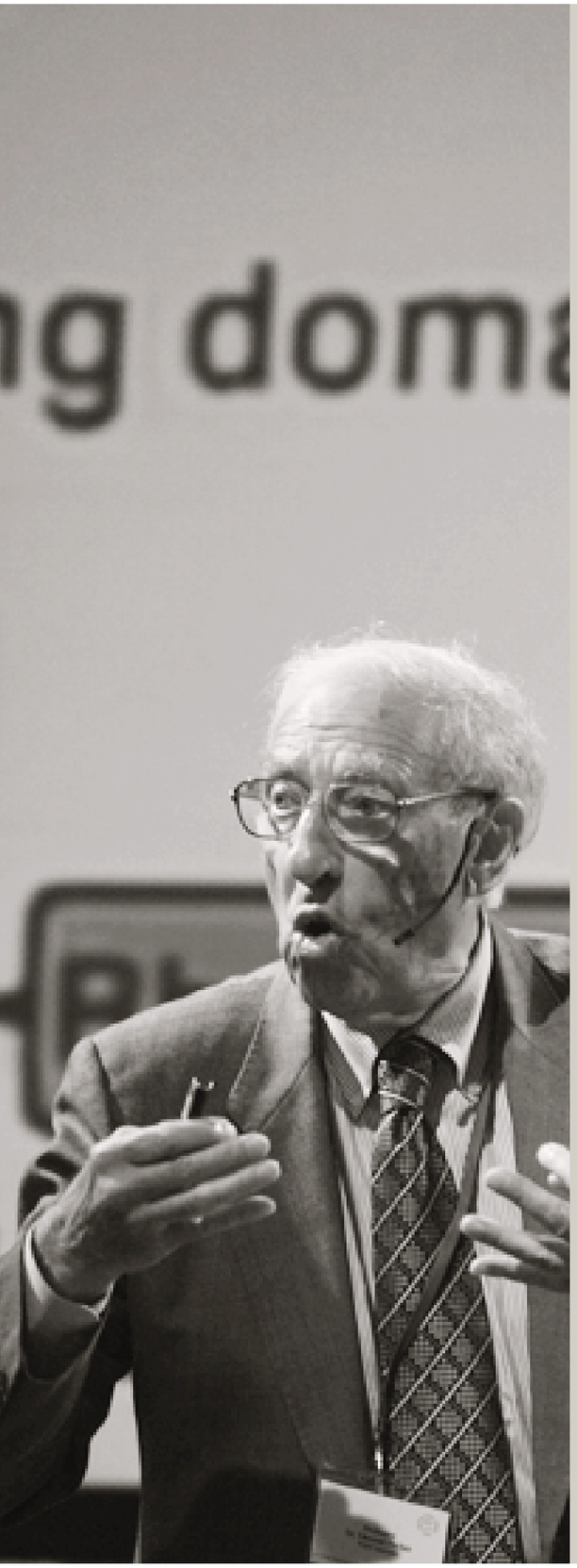
Professor Aaron Ciechanover

ON THE DYNAMICS OF OUR PROTEINS: FROM BASIC MECHANISMS ONTO THE PATIENT BED

Between the sixties and eighties, most life scientists focused their attention on studies of nucleic acids and the translation of the coded information. Protein degradation was a neglected area, considered to be a non-specific, dead-end process. While it was known that proteins do turn over, the large extent and high specificity of the process - whereby distinct proteins have half-lives that range from a few minutes to several days - was not appreciated. The discovery of the lysosome by Christian de Duve did not significantly change this view, as it was clear that this organelle is involved mostly in the degradation of extracellular proteins, and their proteases cannot be substrate-specific. The discovery of the complex cascade of the ubiquitin pathway revolutionized the field. It is clear now that degradation of cellular proteins is a highly complex, temporally controlled, and tightly regulated process that plays major roles in a variety of basic pathways during cell life and death, and in health and disease.

With the multitude of substrates targeted, and the myriad processes involved, it is not surprising that aberrations in the pathway are implicated in the pathogenesis of many diseases, certain malignancies and neuro-degeneration among them. Degradation of a protein via the ubiquitin/proteasome pathway involves two successive steps: (a) conjugation of multiple ubiquitin moieties to the substrate, and (b) degradation of the tagged protein by the downstream 26S proteasome complex. Despite intensive research, the unknown still exceeds what we currently know on intracellular protein degradation, and major key questions remain unsolved. Among these are the modes of specific and timed recognition for the degradation of the many substrates, and the mechanisms that underlie aberrations in the system that lead to pathogenesis of diseases.

The recent discovery of modification by ubiquitin-like proteins along with identification of “non-canonical” polyubiquitin chains that serve non-proteolytic functions, have broadened the scope of the system beyond proteolysis and set new challenges in for biologists and proteomic experts. Major challenges in the field are clearly (i) identification of the cellular proteins tagged by ubiquitin and ubiquitin-like proteins, (ii) identification of the downstream elements recognized by these chains, and (iii) deciphering the structure of the different ubiquitin and ubiquitin-like chains that tag the different proteins.



Professor Edmond H. Fischer

PROTEIN CROSSTALK IN CELL SIGNALING

The talk will concentrate on cellular regulation by tyrosine phosphorylation which has been directly implicated in cell growth, differentiation and transformation. Growth factor receptors transduce their signal by recruiting a multiplicity of adaptor proteins interacting with one another in a tinker-toy sort of way through a plethora of binding modules (SH_2, SH_3, WW, PH, PTB, PDZ, etc.) thereby initiating a diversity of signaling cascades.A few examples as to how the modules are utilized will be presented

Regulation of signal transduction also involves protein tyrosine phosphatases (PTPs), an expanding family of transmembrane and intracellular enzymes that catalyze the reverse reaction. Most receptor forms have a modular architecture with highly variable external domains often containing immunoglobulin-like and/or fibronectin type III repeats. Surprisingly, they display all the structural characteristics of cell adhesion molecules which suggests that they must be involved in -or be regulated by- cell-cell or cell-matrix interaction with the exciting possibility that they might be directly implicated in contact inhibition which plays such a crucial role in carcinogenesis.

Professor Avram Hershko

THE UBIQUITIN SYSTEM AND ITS ROLES IN THE CONTROL OF CELL DIVISION

The selective degradation of many short–lived proteins in eukaryotic cells is carried out by the ubiquitin-mediated proteolytic system. In this pathway, proteins are targeted for degradation by covalent ligation to ubiquitin, a highly conserved small protein. The ligation of ubiquitin to protein involves the successive action of three types of enzymes: the ubiquitin-activating enzyme E1, a ubiquitin-carrier protein E2 and a ubiquitin-protein ligase, E3. The selectivity and the regulation of the degradation of a specific protein are usually determined by the properties of its specific ubiquitin ligase (E3) enzyme. We have been studying two ubiquitin ligase complexes that have important roles in different aspects of cell cycle regulation.

One is the cyclosome, or Anaphase-Promoting Complex (APC/C), which acts on mitotic cyclins and some other regulators in exit from mitosis. The cyclosome is activated at the end of mitosis by phosphorylation, a process that allows its further activation by the ancillary protein Fizzy/Cdc20. A different complex, which belongs to the SCF (Skp1-Cullin-F-box protein) family of ubiquitin ligases, is involved in the degradation of p27, a mammalian G1 Cdk inhibitor, following mitogenic stimulation. Its action is triggered by Cdk2-dependent phosphorylation of p27, as well as by the increase in levels of a specific F-box protein, Skp2 and of the auxiliary protein Cks1, that take place in the G1 to S-phase transition.

Professor Robert Huber

PROTEOLYSIS AND ITS REGULATION, A MOLECULAR BASIS

Proteolytic enzymes catalyse a very simple chemical reaction, the hydrolytic cleavage of a peptide bond. Nevertheless they constitute a most diverse and numerous lineages of proteins. The reason lies in their role as components of many regulatory physiological cascades in all organisms. To serve this purpose and to avoid unwanted destructive action proteolytic activity must be strictly controlled. Control is based on different mechanisms which I will discuss and illustrate with examples of systems and structures determined in my laboratory.

a) by specific inhibition with natural and synthetic inhibitors
b) by enzymatic specificity
c) by activation from inactive precursors accompanied or not by allosteric changes
d) by co-localization of enzyme and substrate
e) by cofactor binding accompanied or not by allosteric changes
f) by controlled substrate processing and access to the proteolytic site

The regulatory principles offer new opportunities of intervention for therapeutic purposes and in crop science.

Professor Sir Timothy Hunt

THE CELL CYCLE AND CANCER

It was in 1882 that Walther Flemming published drawings of chromosomes lining up in mitosis and parting equally to the daughters of cell division, and 20 years later that Theodor Boveri explained the significance of the chromosome dance in terms of the distribution of information. He based his interpretation on what happened in cases of lost information, proposing a theory of cancer that has lasted surprisingly well to this day. Not until after WWII was the chemical structure of DNA established, and its role in heredity accepted. The definition of the cell division cycle, with its alternating phases of chromosome replication and segregation (and gaps in between) dates from the same era. Not until the late 1960s and early 1970s did anyone begin to understand how the cell cycle was controlled, although a large literature accumulated about the mechanics of cell division. My own involvement in this field came about by accident in the early 1980s while I was trying to understand the control of protein synthesis in sea urchin eggs, and I discovered the cyclins, translationally regulated proteins that undergo rapid periodic destruction as fertilized eggs of sea urchins and clams divide to form embryos. The cyclins eventually proved to be the activating subunits of a protein kinase that can be thought of as the master regulator of the cell cycle and today we understand this regulation in very considerable depth and detail, although many deep mysteries remain. I'll talk about how we know what we know and what we'd like to know and how understanding the control of the cell cycle relates to the all-important subject of understanding and treating cancer.

Professor Craig C. Mello

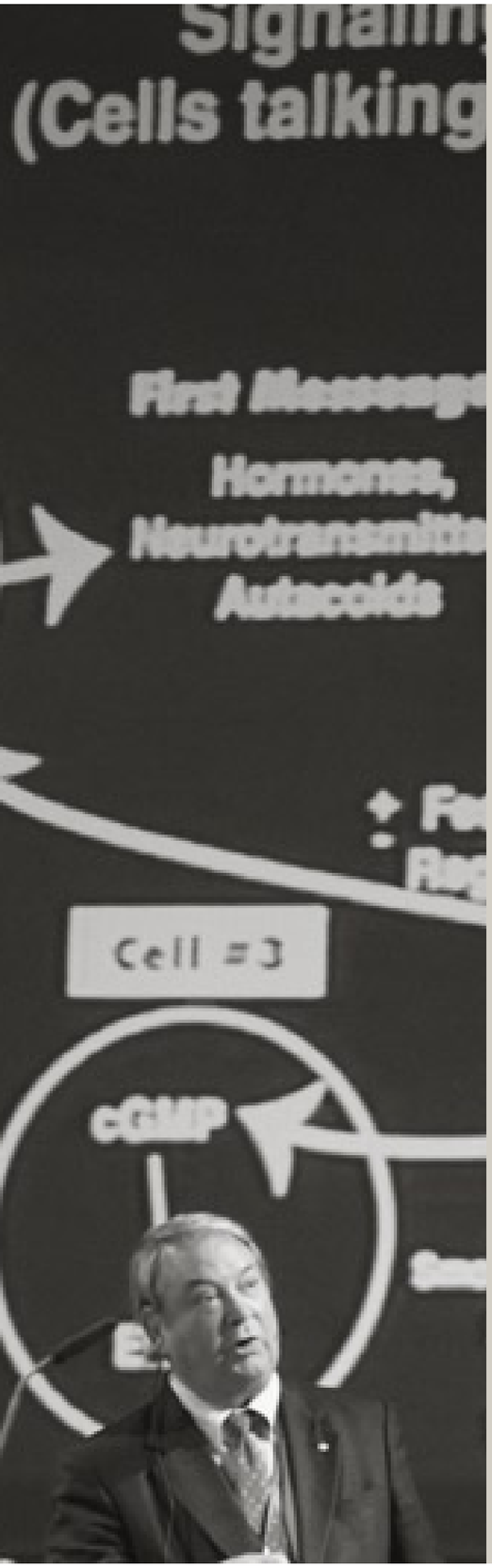
RNAi AND DEVELOPMENT IN C. ELEGANS

Argonaute proteins interact with small RNAs to mediate gene silencing. C. elegans contains 27 Argonaute homologs, raising the question of what roles these genes play in RNAi and related gene-silencing pathways. Through our collaborator, Dr. Shohei Mitani, we have obtained a set of 30 deletion alleles representing all of the previously uncharacterized Argonaute genes. Analysis of single- and multiple-Argonaute mutant strains reveals essential functions in several pathways including: (i) chromosome segregation, (ii) fertility, and (iii) at least two separate steps in the RNAi pathway. We show that RDE-1 interacts with trigger-derived sense and antisense RNAs to initiate RNAi, while several other Argonaute proteins interact with amplified antisense siRNAs to mediate downstream silencing. Overexpression of downstream Argonautes enhances silencing, suggesting that these proteins are limiting for RNAi.
These downstream Argonautes also function in endogenous RNAi (endo-RNAi) pathways of unknown function. A distinct Argonaute, ERGO-1, appears to function in a manner analogous to RDE-1 at an upstream step in the endo-RNAi pathway. The ERGO-1 and RDE-1 mediated pathways appear to compete for the downstream secondary Argonautes which lack key residues required for mRNA cleavage. Thus our findings support a two-step model for RNAi, in which Argonaute proteins function sequentially, and downstream silencing is mediated by a set of Argonautes unlikely to harbor catalytic-slicer activity.

Professor Hartmut Michel

BIOFUELS: SENSE OR NONSENSE ?

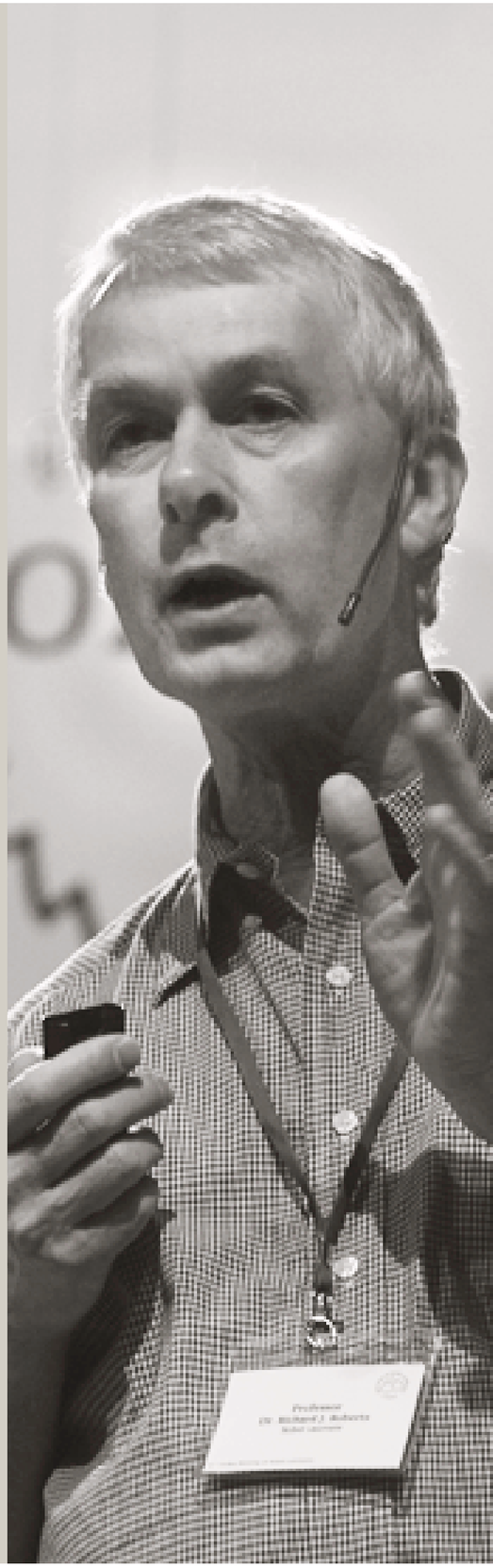
With this year's report of the Intergovernmental Panel on Climate Change (IPCC) it becomes generally accepted that the global warming which we undoubtedly observe, is the result of an increased concentration of greenhouse gases like carbon dioxide and methane in the atmosphere. Within this scenario it is evident that we have to reduce the emissions of carbon dioxide in order to stop or to decrease global warming. It will be necessary to switch from energy mainly based on fossil energy to renewable energy. One big hope is the use of biofuels like bioethanol, biodiesel, sundiesel, biogas and so on. The biofuels directive of the European Union requests that 5.75 % of all fossil traffic fuel (based on energy contents) has to be replaced by biofuels by the year 2010. Biofuels are of course products derived from photosynthesis of plants. It will be shown that the overall efficiency of photosynthesis is very low: less than one percent of the energy of the sunlight is stored in the form of biomass, and there is not much hope for a substantial improvement. Biogas and biodiesel per area unit and year contain about 0.4 % of the energy of the sunlight which the area unit has received in the same time. In addition at least 50 % of the energy which is contained in biogas or biodiesel had to be invested from conventional (fossil) energy sources to produce the biogas or biodiesel. Therefore production and usage of biogas or biodiesel is also not carbon dioxide neutral.
In order to produce Germany's electricity consumption from biofuels one would have to use the entire area of Germany for growing energy plants, even if one does not consider the energy input required to produce the biofuels. By comparison, usage of photovoltaic cells is more efficient by a factor of 50 to 100 with respect to energy conversion, and correspondingly less land is required. Growing energy plants therefore is a very inefficient way of using the land. The import of biofuels made of palm oil or soy beans from tropical countries will enhance the deforestation and lead to a loss of the tropical rain forest.



Professor Ferid Murad

NITRIC OXIDE AS A MESSENGER MOLECULE AND ITS ROLE IN DRUG DEVELOPMENT

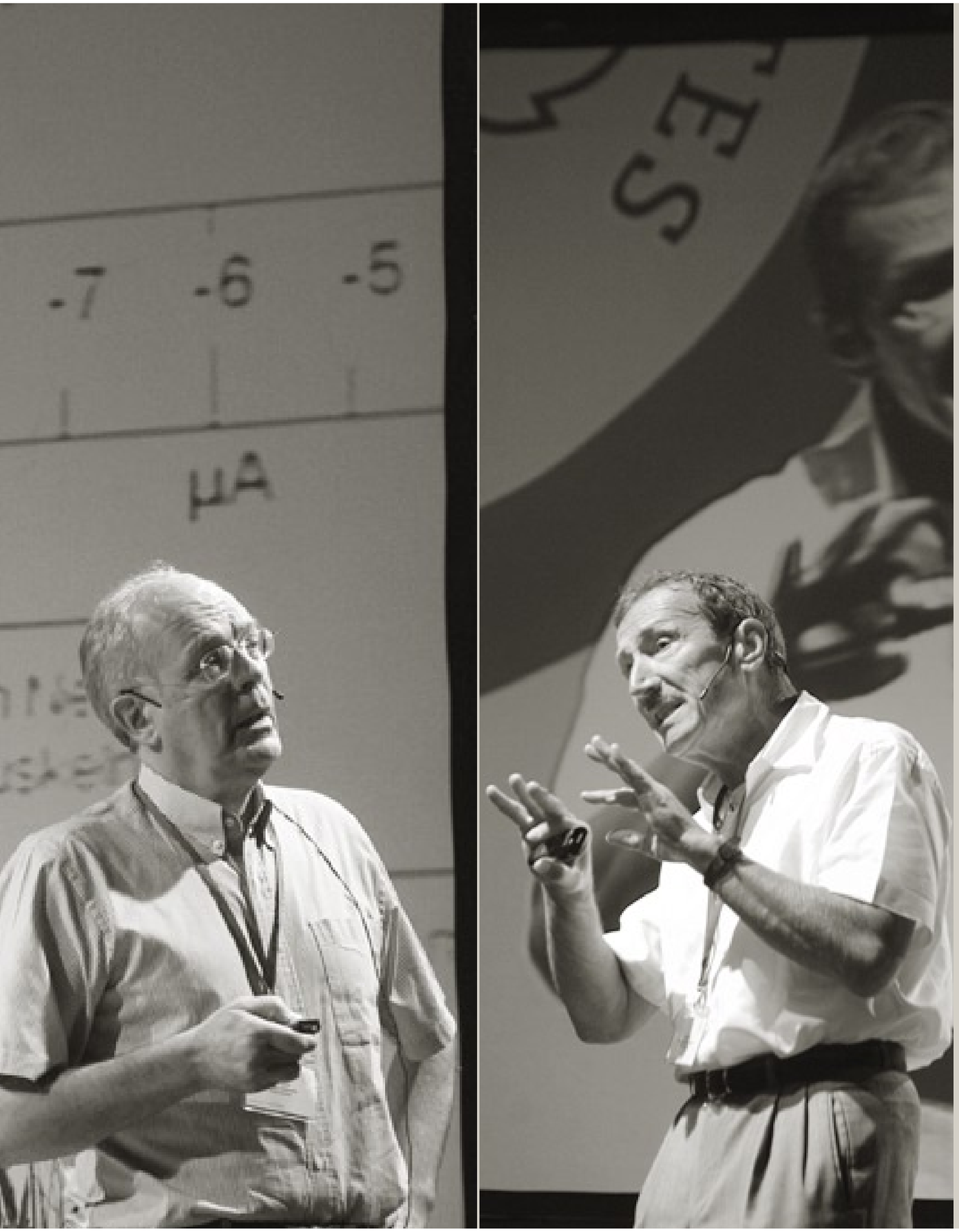
The role of nitric oxide in cellular signaling in the past three decades has become one of the most rapidly growing areas in biology. Nitric oxide is a gas and a free radical with an unshared electron that can regulate an ever-growing list of biological processes. Nitric oxide is formed from L-arginine by a family of enzymes called nitric oxide synthases. These enzymes have a complex requirement for a number of cofactors and regulators including NADPH, tetrahydrobioterin, flavins, calmodulin and heme. The enzymes are present in most cells and tissues. In many instances, nitric oxide mediates its biological effects by activating the soluble isoform of guanylyl cyclase and increasing cyclic GMP synthesis from GTP. Cyclic GMP, in turn, can activate cyclic GMP-dependent protein kinase (PKG) and can cause smooth muscles and blood vessels to relax, decrease platelet aggregation, alter neuron function, etc. These effects can decrease blood pressure, increase blood flow to tissues, alter memory and behavior, decrease blood clotting, etc. The list of effects of nitric oxide that are independent of cyclic GMP formation is also growing at a rapid rate. For example, nitric oxide can interact with transition metals such as iron, thiol groups, other free radicals, oxygen, superoxide anion, unsaturated fatty acids, and other molecules. Some of these reactions result in the oxidation of nitric oxide to nitrite and nitrate to terminate the effect, while other reactions can lead to altered protein structure function and/or catalytic capacity. These effects probably regulate bacterial infections, inflammation of tissues, tumor growth, and other disorders. These diverse effects of nitric oxide that are cyclic GMP dependent or independent can alter and regulate numerous important physiological events in cell regulation and function. Nitric oxide can function as an intracellular messenger, an antacoid, a paracrine substance, a neurotransmitter, or as a hormone that can be carried to distant sites for effects. Thus, it is a unique molecule with an array of signaling functions. However, with any messenger molecule, there can be too little or too much of the substance, resulting in pathological events. Some of the methods to regulate either nitric oxide formation, metabolism, or function have been in clinical use for more than a century, as with the use of organic nitrates and nitroglycerin in angina pectoris that was initiated in the 1870s. Inhalation of low concentrations of nitric oxide can be beneficial in premature infants with pulmonary hypertension and increase survival rates. Ongoing clinical trials with nitric oxide synthase inhibitors and nitric oxide scavengers are examining the effects of these agents in septic shock, hypotension with dialysis, inflammatory disorders, cancer therapy, etc. Recognition of additional molecular targets in the areas of nitric oxide and cyclic GMP research will continue to promote drug discovery and development programs in this field. Current and future research will undoubtedly expand the clinician's therapeutic armamentarium to manage a number of important diseases by perturbing nitric oxide formation and metabolism. Such promise and expectations have obviously fueled the interests in nitric oxide research for a growing list of potential therapeutic applications. There have been and will continue to be many opportunities from nitric oxide and cyclic GMP research to develop novel and important therapeutic agents. There are presently more than 80,000 publications in the area of nitric oxide research. The lecture will discuss our discovery of the first biological effects of nitric oxide and how the field has evolved since our original reports in 1977. The possible utility of this signaling pathway to facilitate novel drug development and the creation of numerous projects in the Pharmaceutical and biotechnology industrials will also be discussed.



Professor Richard J. Roberts

WHY I LOVE MICROBES

We live in a fascinating world surrounded by life. Much of that life is clearly visible like the plants and animals that we see every day. However, far more is invisible to the naked eye and it is to this realm, the microscopic world, that I will take you. These unseen bugs can be friends such as the Bifidobacteria that we find in yoghurt or they can be our deadly foes such as Yersinia pestis, the bacterium that caused the Black Death and decimated Europe in the Middle Ages. This unseen world is fascinating and is far richer and more complicated than the macroscopic world of elephants and giraffes.
These organisms live in and on our bodies as well as in every environment, even the harshest, found on earth. They may also live elsewhere in the solar system! Without these bugs we would be unable to survive on earth and yet we know rather little about them. We don't even know how many different kinds there are. Perhaps your skin will crawl just a little when you realize how many passengers, both friendly and unfriendly, are riding around with you and lying in wait in the oceans and jungles.



Professor Bert Sakmann

GRAY MATTER(S)

Rodents navigate in their natural environment via signals from their facial whiskers. Under experimental conditions the movement and deflection of even a single whisker can guide the motor behavior of an animal. We have determined how the deflection of a single whisker in rats is represented in identified neurons located in different layers of the somatosensory cortex at the level of inputs to a layer postsynaptic potentials (PSPs) and at their outputs (APs). We found that the representation of a whisker deflection is layer and cell-type specific and depends on whether representational maps are constructed for input signals (PSPs) of a layer or for their output signals (APs). The PSP maps are broader and less dynamic than AP maps, suggesting „dense coding" at the PSP level meaning that a large fraction of cells in a column is activated at the subthreshold level.

The narrower and more dynamic output (AP) maps suggest that only a small percentage of cells in a column are generating APs, indicating „sparse coding" in all layers of the cortex. The difference in AP coding is particularly large between supragranular and infragranular layers of the cortex suggesting that of all layers the cells of L5B represent a deflection most reliably and specifically. It may be hypothesized that the sluggish and delayed AP output from L2/3 generated by a whisker deflection is mostly modulating the excitability of neighboring columns and brain areas adjacent to the somatosensory area, e.g. the association areas. The brisk and reliable AP output of L5B pyramids primarily drives motor reactions in response to whisker deflections.

Professor Rolf Zinkernagel

WHY DO WE NOT HAVE A VACCINE AGAINST TB OR HIV (YET)?

Survival of vertebrate hosts against infections depends on important natural or innate resistance mechanisms combined with adaptive immune responses of T and B cells. Infectious agents probe the limit of immune responses and help to characterize three basic parameters of immunity specificity, tolerance and memory. Specificity: the specificity repertoire of T and B cells is probably in the order of 104 - 105 specificities expressed by protective T cells, or by protective neutralizing antibodies. Tolerance is best defined by rules of reactivity to eliminate infections while avoiding destruction of normal cells; this is achieved by complete elimination of T cells that are specific for antigens persisting within the lymphohemopoietic system. In contrast, T and B cells specific for self- or foreign antigens, limited to extralymphatic tissues are not induced but potentially can be activated to react. Thus antigen staying outside of lymphatic tissues are immunologically ignored. Induction of a T cell response is the result of antigens newly and temporarily entering lymph-nodes or spleen, initially in a local fashion and exhibiting an optimal distribution kinetics within the lymphohemopoietic system. Memory is the fact that a host is resistant against disease caused by re-infection with the same agent. Protection correlates best with an antigen-driven activation of B cells/plasmocytes to maintain protective antibody levels and of T cells, such that they are protective immediately against peripheral reinfections in solid tissues. While antibodies transferred from mother to offspring are a prerequisite for the survival of otherwise unprotected immuno-incompetent offspring, activated memory T cells cannot be transmitted for several reasons incl. rejection. Attenuation of infections in infants by maternal antibodies is the physiological correlate of man-made vaccines, therefore infections against which antibody-dependent protection is key work. T cells play an essential role in maintaining T help-dependent memory antibody titers, but also in controlling the many infections that persist in a host at rather low levels (including tuberculosis, HIV). We cannot yet imitate this subtle equilibrium between infection and host, therefore we do not have these vaccines. This explains why all efficient vaccines protect via antibodies whereas vaccination against variable antigens or to maintain macrophage activation or protective T cell responses have so far been unsuccessful.

SOCIAL PROGRAMME

The social programme forms an essential part of the concept of the Nobel Laureate Meetings. It offers numerous opportunities for encounters and dialogue, not only between young researchers and Nobel Laureates, but also between the young scientists themselves. The results of the survey show that this unique chance is highly valued by the participants. During the course of the week, not only do the young researchers have the opportunity to experience science directly from the leading authorities in their fields, but they are also able to develop their own international network with colleagues from all over the world. The personal encounters make a decisive contribution to the frequently cited "special atmosphere" of the Lindau Dialogue. This is why particular attention is being paid in the ongoing development of the website to setting up an active alumni platform where the discussions initiated in Lindau are intended to be resumed and first encounters can be developed into networks.

Welcome Parties.

The Council and Foundation took the results of the survey from the 2006 Meeting of Nobel Laureates in Chemistry and the very positive feedback from the get-together held during the 2006 Meeting in Economic Sciences (which likewise took place before the beginning of the scientific programme) as a basis for the organisation of the welcome parties. The purpose of this evening is to enable the young scientists from 64 countries to become acquainted with one another, and therefore to fulfil one of the main objects of the Nobel Laureate Meetings: the establishment of durable networks of scientific excellence, regardless of culture, religion and nationality. The young scientists were invited to welcome parties on the day of the official opening of the meeting.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[1] Nobel Laureates Sakmann and Fischer. International participants got to know each other during various dinners on Sunday night [2]. Günter Blobel [3] with young scientists. [4] North Rhine-Westphalia introduced itself to the research elite of tomorrow with a panel discussion on Monday.

To help them get to know one another better in smaller groups, the 563 young researchers were split up over three events. The Bavarian Casino in Lindau invited one group to an international buffet on the shore of Lake Constance. In the Inselhalle restaurant, the American delegation welcomed young scientists from several countries. The Department of Energy (DOE), the National Science Foundation (NSF), the National Institutes of Health (NIH), the Oak Ridge Associated Universities (ORAU) and Mars, Inc. funded this evening of encounters and dialogue. The Foundation Lindau Nobelprizewinners Meetings at Lake Constance was the host of the third welcome party. This took place in a tent next to the Inselhalle.

Get-Together Evening.

This event traditionally takes place on the Monday of the Nobel Laureate Meeting and was organised this year for the first time together with a partner state, the German federal state North Rhine-Westphalia which has a high density of research institutions and biotechnological enterprises.
Four members of the Young College of North Rhine-Westphalia's Academy of Sciences – Dr. Agnes Flöel (Westphalian Wilhelm University, Münster), Dr. Eva Maria Neuhaus (Ruhr University, Bochum), Dr. Tilman E. Schäffer (Westphalian Wilhelm University, Münster) and Dr. Alma Zernecke (RWTH Aachen University) – discussed research and employment opportunities for scientists in North Rhine-Westphalia with Peer Schatz, Chairman of the Board of Qiagen AG. They were followed by Professor Andreas Pinkwart, Deputy Minister President of North Rhine-Westphalia and Minister for Innovation, Science, Research and Technology, who personally presented his state to the participants of the Nobel Laureate Meeting. "Why is it thus important for young scientists to dream of excellence? To dream of the magic moment?" asked Minister Pinkwart. "The reason is that we are counting on them to solve the big questions facing mankind. At the end of the day, what matters most is what the individual is willing and able to achieve. Excellent brains

make all the difference. In the search for solutions, we will need each and every one of them. (…) Freedom for research and teaching, real autonomy of the universities, reliable state funding and a clear commitment to competition and excellence: It was in the spirit of these principles that we developed the new higher education law."
The Council assessed the first Get-Together Evening together with a partner state as having been a successful beginning which should be developed in the future – with other federal states of Germany but also with foreign countries. Not least it was the resonance in the media which meanwhile has encouraged other states to signal their desire to enter such a partnership.
After the presentation of the 'innovation state' North Rhine-Westphalia, the get-together evening provided plenty of opportunities for personal encounters. Nobel Laureates willingly talked about 'the secret' of their researching careers, and keenly discussed questions from the fields of research, society and politics with young scientists.

Dinner with Academic Organisations.

On Tuesday evening, several institutions invited young scientists to dinner in Lindau's restaurants. The Department of Energy (DOE), the German Academic Exchange Service (DAAD), the Nobel Foundation, the Helmholtz Association and the Elite Network of Bavaria had also invited Nobel Laureates, setting the stage for intensive dialogues in small groups. The Alexander von Humboldt Foundation, the German Research Council (DFG) and the delegations from China and India were the hosts of these special encounters on Thursday, July 5th.

Concert by the UBS Verbier Festival Chamber Orchestra.

The UBS Verbier Festival Chamber Orchestra and the Lindau Nobel Laureate Meetings are united by a common purpose: to recognise and promote excellence. The UBS Verbier Festival Chamber Orchestra was visiting Lindau during the Nobel Laureate Meeting for the sixth time. The concert given by this highly-gifted orchestra is one of the highlights of the social programme. Making his debut as soloist and conductor was Gábor Takács-Nagy. The Hungarian violinist has been conducting since 2001, and founded the Bellerive Camerata string orchestra in 2005. He was recently appointed Artistic Director of the Budapest Chamber Orchestra.
The concert by the young international orchestra was enthusiastically received by the participants at the 57th Nobel Laureate Meeting. Local citizens were also invited to this evening event, and due to the huge interest, some visitors had to listen to the concert sitting in the aisles. After the concert, UBS AG gave a reception at Hotel Bad Schachen. Guests were greeted by Patrick Siméons, Executive Director and Co-Head of Cultural Sponsorship of UBS AG.


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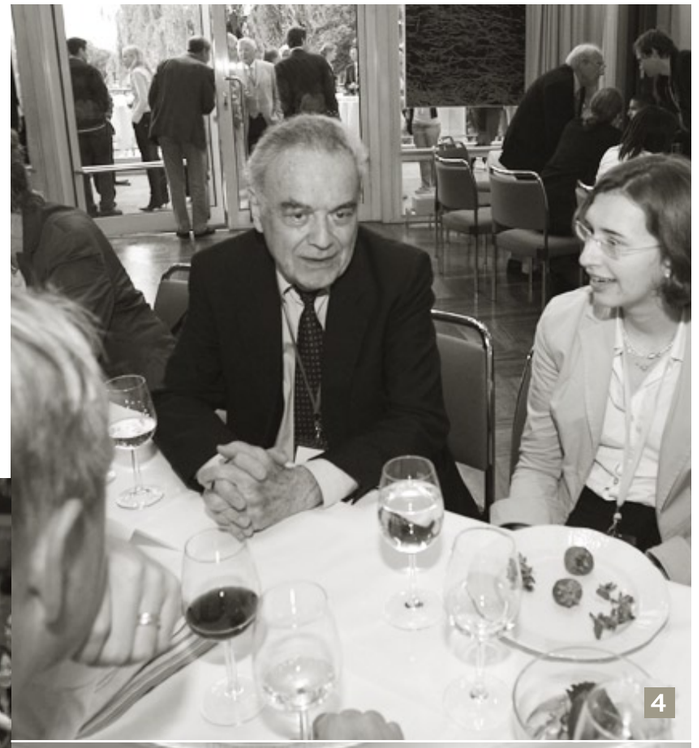
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[1] Peer Schatz, Chairman of the Board of Qiagen AG, North Rhine-Westfalian Deputy Minister President Professor Andreas Pinkwart and Professor Helmut Sies at the Get-Together-Evening. [2] Young researchers and Nobel Laureates filled the dance floor for the opening dance. Nobel Laureates Professors [3] Mello and [4] Arber willingly answered questions during the event. The concert of the [6] UBS Verbier Festival Chamber Orchestra at the [5] Stadttheater of Lindau was once more a highlight of the social programme.

FAREWELL

The 57th Meeting of Nobel Laureates in Lindau closed with the traditional boat trip to the Isle of Mainau. The official farewell ceremony for the participants at the meeting was held in front of the castle belonging to the Bernadotte family. Countess Sonja Bernadotte gave special thanks to the Laureates for their efforts during the meeting. The President of the Council told the listening young scientists that she hoped they would profit in the future from their encounters during the Nobel Laureate Meeting and then return to Lake Constance as Nobel Laureates.

Craig C. Mello, 2006 Nobel Laureate in Physiology or Medicine, bid farewell to the participants on behalf of all the attending Laureates. In doing so, he stressed the importance of dialogue and the exchange of information in the world of science. Urging the 'Best Talents' from 64 countries to remain in contact with one another in order to keep alive the dialogue started in Lindau, he underlined the role played by science in modern society: "Science has made possible the world we are living in. And science will have to take responsibility." His closing sentence encouraged the participants to become involved in scientific progress: "Together we can create a wonderful future."

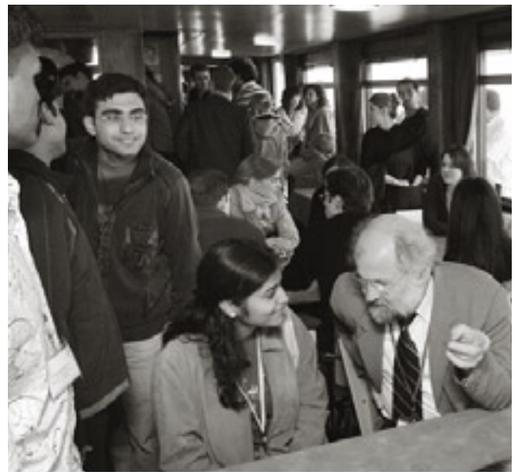
The young scientist Antonina J. Kruppa spoke on behalf of all the young researchers: "This week, the lectures – whether they presented unpublished data or gave a historical perspective – were intellectually stimulating and represented a snapshot of the stage at which various scientific disciplines are at in the 21st century." Referring to the concert given by the UBS Verbier Festival Chamber Orchestra, she said: "I hope that we as scientists establish harmonious collaborations transcending national borders and cultural boundaries in the same way as each musician was in synchrony with the entire orchestra on Wednesday evening."

The Indian ambassador to Germany, H.E. Meera Shankar, had been gathering her own impressions of the Lindau Dialogue since Thursday. She was impressed by the "human atmosphere of the meeting" which brings together young scientists with the Laureates. It was a meeting place for "generations, disciplines, countries, intellectuals", who for one week transformed Lindau into an "intellectual Woodstock" under the motto "the whole world is a family."

Willi Stächele, Minister of the State Ministry and for European Affairs in Baden-Württemberg, used the farewell ceremony on the Isle of Mainau to point out the special position of Lake Constance: "Lake Constance acts as a boundary between the states of Austria, Switzerland and Germany, but at the same time, it forms a link between them. In the course of history, people living around the lake have learned to deal with each other with tolerance, understanding and friendship. (...) Where else would be the right location for such a significant international meeting of renowned scientists, if not in a region such as this?" He closed his address by urging the young scientists to become more closely acquainted with Baden-Württemberg, the most innovative region in Europe and home to several top-class universities.

"The Lindau Meeting was an amazing opportunity to hear the Laureates talk so openly with students, let us see their passion for research and see how human they really are. I appreciated their promotion of open scientific dialog and collaboration as well as their discussions about global health issues. I feel honoured to have been able to participate in this year's meeting and to have met so many great researchers from all over the world. I will remember this time for many years to come as a time of inspiration and encouragement.
Dr. Erin C. Drew, Canada/ FELLOW OF THE ALEXANDER VON HUMBOLDT FOUNDATION"

Young scientists on the boat to the Isle of Mainau.



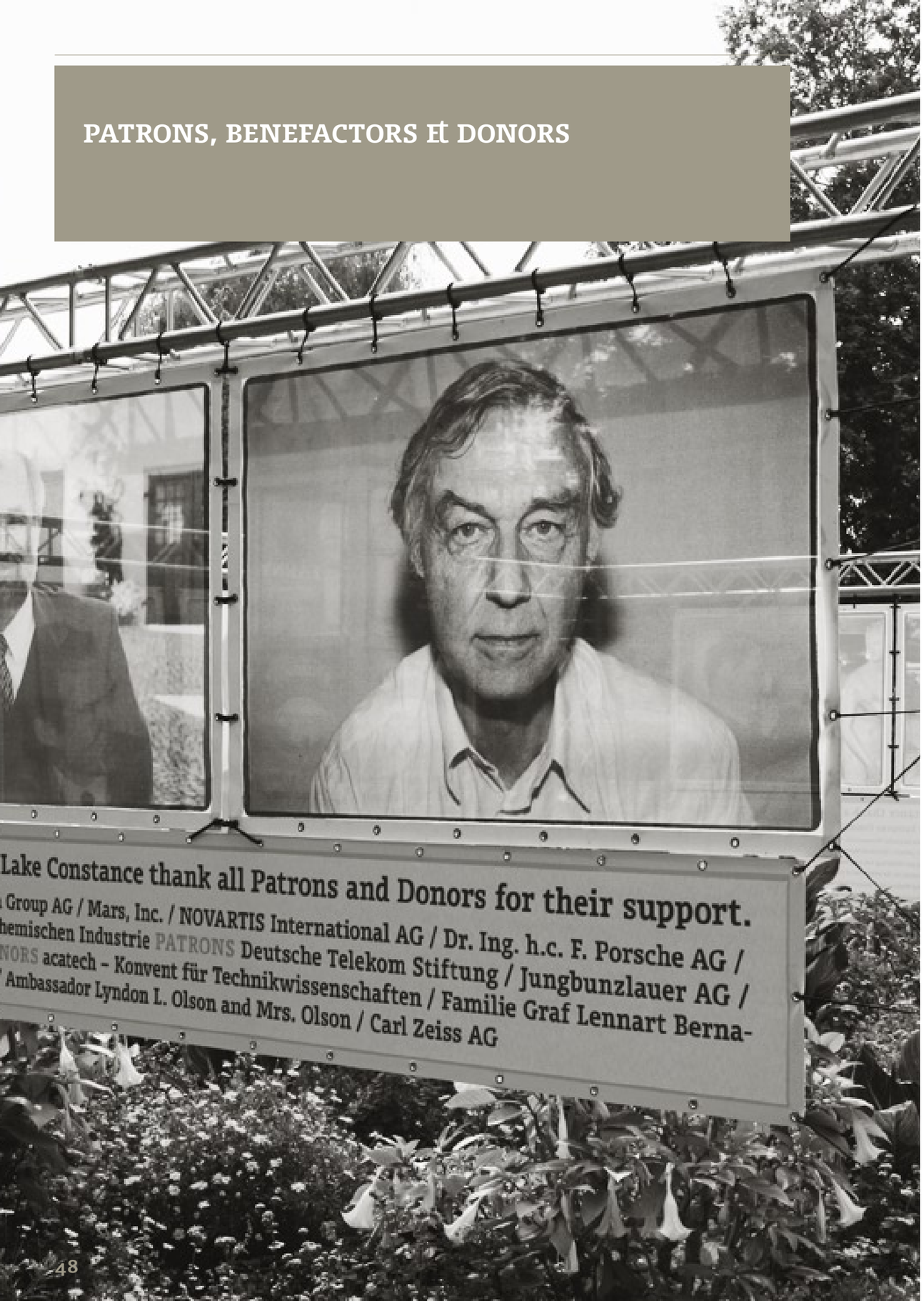
Young scientists used the boat trip to ask **Professor Erwin Neher** more questions.

Professor Ferid Murad and young researchers.

Council member **Countess Bettina Bernadotte** welcoming participants at the Isle of Mainau.

Professor Craig C. Mello, young researcher **Antonia J. Kruppa, H.E. Meera Shankar, Minister Willi Stächele, Countess Sonja Bernadotte** and **Countess Bettina Bernadotte** in front of the Mainau castle (from left).

PATRONS, BENEFACTORS & DONORS



PATRONS, BENEFACTORS & DONORS

The 57th Meeting of Nobel Laureates in Lindau was made possible by the support given by companies, associations, foundations and private patrons, and by federal and state ministries, the International Lake Constance Conference and the European Commission. This support enables the Council and Foundation to organise a unique meeting for young scientists acknowledged as unique far beyond Germany's borders. Their commitment assures the future and continuing development of the Nobel Laureate Meetings.

In the run-up to this year's meeting, the Foundation Lindau Nobelprizewinners Meetings at Lake Constance welcomed some new Principal Patrons: With their contributions – toward the endowment of the Foundation – Deutsche Bank AG, Lonza Ltd. and Mars Inc. help assure the long-term financial security of the Lindau Dialogue. At the time of the 2007 Meeting, the Foundation's capital assets amounted to 12 million euros.

Parallel to the internationalisation of the circle of participants, the Foundation is also striving to enhance the international nature of the circle of benefactors and donors. So far, the majority of benefactors and donors has been companies from the countries bordering on Lake Constance: Austria, Switzerland, Germany and Liechtenstein. Mars, Inc. is now the second benefactor from the USA. The Foundation is confident that it will succeed in recruiting more global companies and foundations as benefactors and donors over the coming 24 months.

Project-related support from the Bundesministerium für Bildung und Forschung (BMBF), the Deutsche Forschungsgemeinschaft (DFG) and the Robert Bosch Stiftung GmbH have enriched the international flavour of the meetings even further while making a vital contribution to the development of these meetings into today`s internationally recognised platform for the exchange of knowledge between the scientific elites of today and tomorrow. The BMBF and the Gerda Henkel Stiftung also made possible the special focus of this year's meeting: the dialogue between the humanities and the natural sciences.

Again this year, the Internationale Bodenseekonferenz (IBK) and the Freistaat Bayern sponsored the expansion of the website (www.lindau-nobel.de). Panel discussions were also broadcast for the first time, in addition to the lectures presented by the Nobel Laureates. Co-operation with the Euro-

"The meeting in Lindau was a very exciting and inspiring experience for me. It was especially interesting how the Laureates made their way from the first discovery to finally receiving the Nobel Prize. I was thrilled to see how fascinated they still are about their own scientific work. Therefore, I realized that passion is the real key for success. **Michaela U. Gack, Germany/** FELLOW OF THE GERMAN RESEARCH FOUNDATION"

“I really enjoyed the Lindau Meeting. It was of course great to get the chance to meet the Nobel Laureates, to see the person behind the great achievement. Their lectures and personal reflections during the discussions were really inspiring, and their enthusiasm created a good atmosphere. The setup of the conference made it easy to get to know the other participants from so many countries.

Gustaf Rydell, Sweden/
NOBEL FOUNDATION FELLOW”

Countess Sonja Bernadotte, President of the Council, and **Professor Wolfgang Schürer,** Chairman of the Board of the Foundation, gave a joint press conference during the meeting. They thanked all benefactors and donors for supporting the Nobel Laureate Meetings at Lake Constance.

Also a major factor in the success of the 57th Meeting of Nobel Laureates was the support provided by Sal. Oppenheim jr. & Cie. KGaA, the Berg-Stiftung im Stifterverband für die Deutsche Wissenschaft, Deutsche Bank AG, the Deutsche Telekom Stiftung, the Ecoscientia Stiftung, the Gerda Henkel Stiftung, the Fritz Thyssen Stiftung, the Dr. Hans Liebherr Stiftung, the Stifterverband für die Deutsche Wissenschaft e.V., the Stiftung van Meeteren and the Wilhelm Sander-Stiftung.

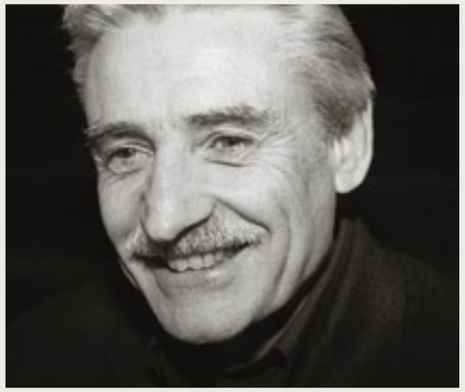
The air-conditioning system in the Inselhalle installed last year thanks to a donation by EnBW Energie Baden-Wurttemberg, was again much appreciated by Laureates and young scientists alike. EnBW renewed its commitment to this year's Lindau Dialogue with further, project-related support for the 57th Meeting of Nobel Laureates.

Donations in kind play an important role in raising the professional level of the Nobel Laureate Meetings, with several renowned companies providing services. Deutsche Lufthansa AG, the meeting's official carrier, brought Laureates to Lindau from all over the world. Once there, MAN coaches and an Audi limousine service provided comfortable rides between the Inselhalle and Hotel Bad Schachen. Deutsche Telekom AG provided numerous workstations with internet access in the Inselhalle, and wireless internet access throughout the conference venue. Auditors PricewaterhouseCoopers AG revised the Council's and Foundation's annual accounts, ensuring a high degree of transparency with regard to the financial support provided by the various benefactors and donors to the Lindau Dialogue. The company's expertise was also useful in negotiations with Lindau's municipal authorities.

Further support came from Sennheiser electronic GmbH & Co. KG, which provided an audio system in the Inselhalle and from Business Wire for the distribution of press releases. In the Inselhalle, the Max-Planck Society provided pictures of objects as revealed by an electron scanning microscope and supported the meeting with conferende bags.

Countess Sonja Bernadotte has entrusted Professor Wolfgang Schürer, Chairman of the Board of the Foundation Lindau Nobelprizewinners Meetings at Lake Constance and member of the Council, with seeking additional donations and co-operation agreements. In her opening speech, she thanked him personally and on behalf of the Council “for his tireless efforts, which contribute so much to the success of the Lindau Meetings.”

Professor Schürer is actively supported in this task by the Senior Research Associate Dr. Urs V. Arnold and Nikolaus Turner, Member of the Board of the Foundation and Council Treasurer. Together, they have dedicated almost 200 working days to activities assuring a lasting financial future for the Lindau Dialogue. As with the Members of the Board of the Foundation and of the Council, they have given their services on a pro bono basis. The success of the 57th Nobel Laureate Meeting is to be attributed not least to the commitment all have shown during the preparation, realisation and evaluation of this year's meeting.



Leland H. Hartwell, Physiology or Medicine 2001

“I imagine myself a student again: How did you choose your project? When did you know you would get the prize? What are the most exciting areas now? What are the best new approaches? The answers are as varied as the personalities...

In terms of the design and organization of the meeting, I thought it went off rather well. I think one possible improvement would be to have a theme to give the meeting a little more coherence and something the students could contribute to as well. For example: “Are we using our knowledge of biology optimally in medicine?”

COMMUNICATION & MEDIA WORK

The communication activities associated with the 57th Nobel Laureate Meeting were characterised by internationalisation. Specifically targeted co-operation agreements, among others with associations of science journalists, the European Council and the "Year of the Humanities", formed the basis for widespread reporting in the German and international media. For the first time, the European Broadcasting Union provided TV editorial staff throughout Europe and Asia with high-quality television pictures of the Nobel Laureate Meeting in a tv-livestream.

COMMUNICATION & MEDIA WORK

More than 60 journalists from 22 countries reported on this year's Nobel Laureate Meeting. A major contributing factor here were co-operation agreements with the European Union of Science Journalists Associations (EUSJA) and the Arab Science Journalists Association, which were initiated in the lead-up to the meeting. Academic Partners of the Lindau Dialogue were likewise able to enlist journalists to send reports, including media representatives from China, Israel and South Korea. The European Commission had also invited reporters to attend. With journalists from countries including Bangladesh, Egypt, Great Britain, Greece, Jordan, Kuwait, Malaysia, Russia, Slovakia and Spain, the media coverage was more international than it had ever been before.

For the first time, there were live broadcasts by the European Broadcasting Union (EBU) of lectures and podium discussions from the Nobel Laureate Meeting. Daily summaries of the scientific programme, including interviews with Nobel Laureates and young scientists, were also made available. Television editorial staff in Europe and Asia was given access to TV pictures. This service was used by the German TV stations ARD and ZDF, as well as by Deutsche Welle. Parallel to this, the EBU also set up a live stream at www.lindau-nobel.de, enabling enthusiasts world-wide to follow the scientific programme. This material will remain available on the website. Together with lectures from past years, it represents a unique archive of scientific excellence.

This has been made possible by the support given by the International Lake Constance Conference and the Free State of Bavaria. The media work in the German-speaking countries was this year more professional and intensified as the result of numerous individual measures. To mark the "Year of the Humanities", a DPA interview with Professor Werner Arber (1978 Nobel Laureate in Medicine or Physiology and a member of the Council) and Professor Otfried Höffe (Professor of Philosophy at the Eberhard-Karl University, Tübingen) was conducted during the meeting. This interview was organised in collaboration with the Public Relations agency Scholz & Friends, which accompanies the communication activities for the "Year of the Humanities" on behalf of the Federal Ministry of Education and Research.

New media-related methods were used to place even more emphasis on the contextual variety of the topics discussed at the Nobel Laureate Meeting. One of these involved the publication in daily newspapers of lectures given by two Nobel Laureates (Werner Arber and Hartmut Michel) as named contributors.

In addition to this, Ulrike Herrmann conducted an interview with Sir Timothy Hunt (2001 Nobel Prize in Medicine or Physiology) on the subjects of cancer research and European research policy that was offered to selected German regional newspapers for publication. Both of these measures were received with great interest by the media.

Following the benefits felt last year with special offers for radio stations, this aspect was developed and expanded for this year's meeting. As a result, reports from the meeting and interviews with young researchers in Lindau reached more than two million listeners throughout Germany. 17 separate interviews were conducted within two days. Additional online material, including statements and a broadcast-ready report, was made available to radio stations.

A film team from www.nobelprize.org, the official website of the Nobel Foundation, this year belonged to the circle of accredited journalists. During the week of the meeting, Adam Smith, the site's chief editor, interviewed several Nobel Prize Laureates.

A structure with portraits of all the attending Nobel Laureates once again greeted the participants at the meeting. Thanks to its central position in the centre of the city right before the bridge to the island, it also sent a signal to the residents of Lindau and visitors to the town. The 2m-high portraits of the Laureates are the work of the young photographer from Berlin, Peter Badge (see also p. 94). The project was realised in collaboration with ProLindau Marketing GmbH.

Prior to the 57th Meeting of Nobel Laureates, the organisers had reworked the external presentation of the meeting together with the Hamburg agency, unimak. Measures included revising the logo and the production of standardised documentation. In conjunction with the defined typeface and colour chart, these measures will give future meetings a unique image, thereby consolidating the 'trademark' Lindau Nobel Laureate Meeting on Lake Constance.

Sir Tim Hunt, Physiology or Medicine 2001

"I enjoyed the 2007 Lindau Meeting very much, although I had almost forgotten what it was like to be mobbed by press and students, having been trying for some time to return to normal life and stop being a celebrity. It was quite difficult sometimes not to be rude to people who were clamouring for attention. I was very impressed by the quality of the students I met; it would have been fun to talk with more of them quietly about their science. The opening discussion about Science and the humanities was very tedious. Only Martin Rees made any sense that I could understand. If you want to repeat that kind of thing, then a different topic or different kind of participants need to be chosen. Bite and controversy! Finally, it is always a pleasure for me to meet old friends for some gossip, and this was a very fine occasion to meet a number of important scientific people and old pals in very agreeable surroundings. Many thanks to all concerned."

The events organised prior to the meeting also play a role in intensifying the communication activities. These led to the Nobel Laureate Meeting and aroused more interest in it.

On June 6th, 2007, the Council and the Foundation issued invitations to a round of discussions with top-quality guests in Berlin, whose central theme was devoted to the perception of elite networks in the globalised world. It took place in the atrium of Deutsche Bank AG, which was made available especially for this occasion by the company. The purpose of these discussions was to draw attention to the Nobel Laureate Meeting on Lake Constance, due to take place four weeks later, and to acquaint the guests from the fields of science, diplomacy, industry and the media with its aim of being a platform for bringing together the elite of international science. Thomas Ellerbeck, a member of the Council and of the board of the Foundation, pointed in his opening address to the significance of the Lindau Meeting for Germany as a European seat of science. In Lindau, the focus is on one of the most important mobile resources in international competition: knowledge. The „Public Private Partnership" of science, politics and industry that is practised in Lindau is a model that demonstrates just how a competitive framework for the world of science can be created by working together. Some of the world's best young scientists are able to profit from this in Lindau, said Ellerbeck in his address.

Present on the panel were Professor Max G. Huber, Vice-president of the German Academic Exchange Service (DAAD), H.E. Ampalavanar Selverajah, Singapore's ambassador in Berlin, Assistant Under-Secretary of State Hartmut F. Grübel (BMBF), representative of the Federal Ministry of Science and Research for the 2007 "Year of the Humanities", and Professor Ernst-Ludwig Winnacker, Secretary-General of the European Research Council and member of the Honorary Senate of the Foundation Lindau Nobelprizewinners Meetings at Lake Constance. The

T. Ellerbeck, H.F. Grübel, Professor M.G. Huber, Dr. F. Thelen, H.E. A. Selverajah, Professor E.-L. Winnacker and **N. Turner** (from left) at the atrium of the Deutsche Bank AG at Berlin.

discussion was moderated by Dr. Friedrich Thelen, former head of the Berlin office of the German magazine 'Wirtschaftswoche'.

The members of the panel emphasised the importance of the Nobel Laureate Meetings. Professor Huber said that Germany can consider itself fortunate that such a "jewel" takes place in this country. He was particularly enthusiastic about the unique and open atmosphere he had experienced himself

as a participant. Assistant Under-Secretary of State Grübel referred to the Lindau Dialogue as "marketing Germany as an attractive location for science". He described excellence, as it is also promoted by the Nobel Laureate Meetings, as being attractiveness and openness for the world.
Ambassador Selverajah named a fundamental prerequisite for the support of an international scientific elite: "to accept globalisation as a fact of life". Singapore is facing the challenges presented by globalisation, and is striving towards a consistent internationalisation of its own scientific landscape. The 4.4 million-strong population of Singapore already includes 400,000 foreigners. With a programme that specially caters for young researchers and their families, and which takes into consideration professional and social environments to an equal extent, the country hopes in future to be able to attract an increasing number of highly-qualified young scientists. Professor Winnacker said that more should be undertaken for the younger generation of scientists. Women in particular must receive greater encouragement from the world of science than has been the case up until now. He described the Lindau Nobel Laureate Meetings as a good example of how internationalisation of the European educational and research landscape can be advanced even further.
The first event of this kind has made it clear that the prominence of the meeting can be enhanced in the relevant target groups (such as in politics and among international journalists in Berlin). It is to be considered whether the goal of the Council and the Foundation (to attract more attention to the Lindau Dialogue) could not be met with smaller events similar to the information evening for ambassadors held in May 2007.

The Nobel Laureate Meetings are the most important events for Lindau as a conference venue. In the past, some criticism has been voiced by Lindau's residents that the introduction of English as the working language for the meeting, brought on by the internationalisation of the event, excludes many local people who would otherwise be interested. The secretarial office, together with Lindau's adult education college, for this reason organised two lectures in the run-up to the meeting within the framework of its local communication activities. In his talk, Professor Axel Olaf Kern (University of Applied Sciences Ravensburg-Weingarten) spoke about the perspectives and trends of the health system, while a week later Professor Walter Schaffner gave a lecture on the subject of the Nobel Prize awarded to Professor Craig C. Mello. Both of these talks were hold in German and explicitly aimed at a non-professional audience, and covered the topics in a generally understandable manner.

Thomas Ellerbeck as a member and spokesman of the Council was responsible for media coordination. In the secretarial office, Christian Rapp, since September 2006 Adviser for Communication and Organisation, is responsible for implementing these activities. Leading up to and during the 57th Nobel Laureate Meeting, he was assisted by Ulrike Herrmann, Felice Puopolo and Maria Regele.

PRESS REACTIONS

Spiegel Online, Germany

"Nobel, Blobel, Global - For 563 young scientists from all over the world, these are the greatest moments of their careers. This week in Lindau, they will be coming face-to-face with 17 Nobel Laureates. (...) The meeting is becoming a target for talent hunters. For the first time, there was a national evening hosted by North Rhine-Westphalia. NRW Research Minister Andreas Pinkwart (FDP) invited the guests to a buffet."

Al-Ghad, Jordan

"For the first time, young researchers from Jordan and other developing countries have attended the international Meeting of Nobel Laureates in Medicine to study their experiences and knowledge in an effort to bridge the scientific divide between the developing and developed countries. (...) This meeting represents a genuine opportunity to develop relationships between peoples and create a scientific atmosphere that is enrichened with discussions brought up by scientists who have devoted their lives to scientific research with the objective of finding medical solutions to a number of diseases that kept on killing people."

Frankfurter Rundschau,Germany

"The meeting in Lindau is unique. Nowhere else do talented young scientists have the opportunity to hold informal conversations with as many as 18 Nobel Laureates. The participants come from 64 countries, and this year's meeting is devoted to medicine and physiology. Although the Laureates give lectures on their specialised fields, it is the informal character of the meeting that is so important. Not only can the young researchers have discussions at the very highest scientific level, they are also able to ask burning questions relating to human problems."

IslamOnline.net, Egypt

"The annual conference, organized by the Council for the Lindau Nobel Laureates Meetings, takes place on the small island of Lindau located on Lake Constance in the South of Germany. In its 57th round this year it hosted 17 Nobel prize winners in the fields of physiology or medicine to interact with 563 students from 64 countries worldwide. Conference events included lectures by the Nobel Laureates, panel discussions, group meetings, and social gatherings, all designed to maximize the interaction between the young researchers and the Laureates."

Süddeutsche Zeitung, Germany

"Superstars of the mind - In Lindau, 17 Nobel Laureates take the stage before 560 young scientists - an inspirational encounter. (...) The spirit of Lindau is again and again described as being "informal", "inspirational" and "personal". Once a year, this legendary spirit breezes though the small town on Lake Constance. The Nobel Laureate Meetings in Chemistry, Medicine or Physics were called into life in 1951 by Count Lennart Bernadotte, and doctors from Lindau. Countess Sonja Bernadotte is related to the King of Sweden, who presents the Nobel Prizes, and she has made it her life's work to promote young researchers. The scientists of tomorrow are selected according to "scientific excellence", that means based on their achievements."

Yedioth Achronot, Israel

"Every year the international geeks' summit takes place in the picturesque town of Lindau in Germany, where hundreds of outstanding students from all over the world meet up with tens of scientists who have won the Nobel Prize."

Die Welt, Germany

"Since 1951, Lindau has been unique in the German, no, in the global research landscape. At the annual Nobel Laureate Meeting, the young scientists are able to exchange thoughts and opinions with the Laureates. (...) Although the organisers may consider the meeting to be an elitist event, many young researchers look forward to the informal atmosphere. If they are to be believed, the predatory competition in the world of natural sciences is fierce enough elsewhere."

El Pais, Spain

"What did you feel in that uplifting moment of discovery that every researcher seeks like a drug? Did you up to that point have to cope with a dead-end in your research? How did you choose the subject of your research? The prize holders explained the background of their science, discussed and gave advice. Another reason for this meeting were the unequal prospects for the future with which the young researchers are faced in their respective native countries."

Die ZEIT, Germany

"A nobel meeting - an institution changes course. (...) The organisers have worked hard to instil a new, wider-ranging appeal in the dust-encrusted, family-like meeting of Nobel Laureates. This year, hand-picked guests from 64 countries were in attendance. And they were no longer doomed to the role of listeners."

Seed-Magazine, USA

"Natural Genius – Photographs by Peter Badge. (...) Badge's commission came from the Deutsches Museum in Germany and America's Smithsonian National Portrait Gallery and Museum of American History. Together, they send him, by invitation of the Council for the Lindau Nobel Laureate Meetings, to the 50th such gathering in June 2000 at Lindau's Lake Constance. There, laureates meet each year with the best talents in science and research from around the world. (...) Since 2001 the Foundation, with 170 Laureates in its Founders Assembly, is his partner in the project with funding from the Klaus Tschira Foundation."

Handelsblatt, Germany

"There are two reasons why the Nobel Laureate Meetings enjoys such an excellent reputation: The high scientific standard of the lectures and rounds of discussions and the opportunities for personal encounters. To mark the "Year of Humanities", the 57th Meeting celebrated an inaugural opening with an interdisciplinary theme: Natural sciences and humanities sought to build bridges."

The Gazette Montreal, Canada

"Brainy McGill doctoral student eager to learn from some of the sharpest minds in the world. – It doesn't happen every day that an up-and-coming scientist gets to hobnob with 17 Nobel Prize winners."

Neue Rhein Zeitung, Germany

"Knowledge without borders - Young researchers from 64 nations came together with Nobel Laureates in Lindau - much praise for North Rhine-Westphalia. (...) This globally unique meeting of the elite of today with the elite of tomorrow has tradition, but also a surprising freshness of youth.
(...) Making its premiere this year: For the very first time, the traditional "get-together evening" was hosted by another federal state, North Rhine-Westphalia. Schürer emphasised that was not in response to a proposal from Lindau, but that the initiative came from NRW, to be more exact from Helmut Sies, former president of the Academy of Sciences in Düsseldorf."

Neue Osnabrücker Zeitung, Germany

"And it is a large marketplace for scientific contacts: The best young scientists become acquainted with world-famous professors with whom they would like to work - and vice-versa. Here is where international networks are born, some of which will endure an entire lifetime of research. This is a windfall for Germany. Lindau offers an ideal entry point to the globally fiercely competitive education and research market for the country's science and industry: The best of the best come to Lake Constance."

Xinhua Network, China

"It is of particular importance for Chinese students to attend the Nobel Laureate Meetings at Lake Constance". According to HAN Jianguo, leader of the Chinese group and Dean of the Bureau of International Cooperation at the National Natural Science Foundation of China: "It will help them to communicate with students of other nationalities. Furthermore, it will help expedite the scientific research that is already progressing rapidly. After all, young students are the hope of the future."

CONCLUSION AND OUTLOOK

Nobel Laureates **Albert Schweitzer** and **Sir Tim Hunt** at the Lindau Nobel Laureate Meetings: A history with future.

The Nobel Laureate Meetings on Lake Constance want to motivate and inspire. Personal encounters, stimulating discussions and an open atmosphere are necessary to achieve this. The results of the participant survey have shown that the Council and the Foundation have succeeded in creating the requisite framework. The young researchers make intensive use of the opportunity presented by the 'sciences bazaar' to move around between the discussion groups with the Laureates. Top-quality questions from the audience were an enrichment for the podium discussions. The evening events, such as the welcome parties, the get-together evening and the concert given by the UBS Verbier Festival Chamber Orchestra, offered numerous possibilities for personal conversations with other young scientists and the Nobel Laureates.

The focal point of the 57th Meeting of Nobel Laureates was dialogue: between Laureates and international young researchers, between the medical sciences and neighbouring fields of knowledge, between the natural sciences and the humanities. The resultant topical variety of the meeting must be preserved and enhanced. Not only does this reflect the increasing interdisciplinary nature of scientific research, but it also encourages an understanding among the next generation of top researchers of the complexity of the challenges to be mastered in future.

The fact that the thematic diversity of the Lindau Dialogue is being increasingly broadened due to the wide variety of religions, languages and cultures represented here by the participants is what gives the Nobel Laureate Meetings its unique character.

The consistent internationalisation represents a vital goal for the Council and Foundation for the future. During the 57th Nobel Laureate Meeting, new co-operation agreements were signed with scientific institutions in Norway, Hungary and Israel. More such partnerships are already in preparation, enabling the best young scientists from even more countries to travel to Lindau.

Craig C. Mello, 2006 Nobel Laureate in Medicine or Physiology, called on all the participants at the meeting to stay in contact with one another in order to continue the dialogue opened on Lake Constance. With the setting up of an alumni network, the Council and Foundation will be creating the necessary platform.

The Council for the Lindau Nobel Laureate Meetings and the Foundation Lindau Nobelprizewinners Meetings at Lake Constance would therefore like to thank all those who have displayed their commitment in so many different ways to the benefit of research, the promotion of science and intercultural dialogue. It is their generosity that makes it possible for the world's young researchers to meet the leading authorities in their fields.

They enable the development of the meeting into an international platform for excellence, a globally unique venue for dialogue and scientific interexchange between generations, cultures, religions and the scientific disciplines.

FACTS AND FIGURES

The Lindau Nobel Laureate Meeting 2007

REPRESENTATION OF YOUNG RESEARCHERS BY COUNTRY

563 highly talented scientists of tomorrow from 64 countries have attended the 57th Meeting of Nobel Laureates at Lindau. Having been nominated by numerous universities, foundations or international research institutes, they have all successfully passed a multi-stage and international selection procedure. With participants from 64 countries and regions, the Nobel Laureate Meeting 2007 has had an international character as never before. Young scientists from Bangladesh, Jordan, North Korea and Syria have attended for the very first time.

Argentina	1
Armenia	6
Australia	7
Austria	8
Bangladesh	6
Belgium	2
Brazil	4
Bulgaria	3
Burkina Faso	1
Cameroon	1
Canada	13
Columbia	1
Croatia	2
Czech Republic	6
Chile	1
China	31
Denmark	3
Egypt	3
Estonia	1
Finland	2
France	15
Georgia	1
Germany	172
Ghana	1
Greece	4
Great Britain	18
Hungary	7
India	34
Indonesia	2
Ireland	2
Israel	11
Italy	4
Japan	9
Jordan	3
Latvia	2
Liechtenstein	1
Lithuania	1
Macedonia	1
Malaysia	4
Mexico	1
Netherlands	3
Nigeria	1
North-Korea	1
Norway	6
Pakistan	8
Philippines	1
Poland	8
Portugal	3
Republic of Korea	4
Romania	3
Russia	15
Serbia	2
Sweden	7
Switzerland	7
Singapore	2
Slovakia	1
Slovenia	3
Spain	19
South Africa	2
Syria	1
Taiwan	1
Turkey	1
USA	68
Vietnam	1

The Council for the Lindau Nobel Laureate Meetings and the Foundation Lindau Nobelprizewinners Meetings at Lake Constance welcomed young researchers nominated by a worldwide network of Academic Partners.

INTERNATIONAL ACADEMIC PARTNERS

Argentina	Department for Science, Technology and Productive Innovation (SECYT)
Armenia	Yerevan State Medical University
Australia	Australian Academy of Science
Austria	Federal Ministry for Science and Research
Austria	Federation of Austrian Industry (Lower Austria Section)
Austria	Federation of Austrian Industry (Vienna Section)
Bangladesh	Bangladesh Academy of Sciences
Belgium	National Scientific Research Fund (FNRS)
Canada	Natural Science and Engineering Research Council of Canada (NSERC)
Czech Republic	Academy of Sciences of the Czech Republic
Chile	Academia de Ciencias
China	Sino - German Center for Research Promotion
Denmark	Danish Agency for Science, Technology and Innovation
Egypt	Ministry of Higher Education and Scientific Research
Estonia	Estonian Academy of Sciences
European Union	Marie Curie Programme of the European Commission
Finland	Academy of Finland
France	Academy of Sciences
France	Institut national de la santé et de la recherche médicale (INSERM)
Great Britain	Medical Research Council
	Medical Schools Council
Hungary	Hungarian Academy of Sciences
India	Department of Science and Technology
Israel	Weizmann Institute of Science
Japan	Ministry of Education, Culture, Sports, Science and Technology (MEXT)
Jordan	Jordan University of Science and Technology
Korea, Republic	Korea Science and Engineering Foundation (KOSEF)
Latvia	University of Latvia, School of Medicine
Lithuania	Vilnius University
Malaysia	Academy of Sciences Malaysia
Norway	Norwegian National Meeting of Science Faculties
	University of Oslo
Pakistan	Pakistan Science Foundation
Poland	Foundation for Polish Science
Portugal	Foundation for Science and Technology
Russia	Russian Foundation for Basic Research
	Sechechnov Moscow Medical Academy
Switzerland	Swiss Academy of Medical Sciences (SAMS)
	Swiss Study Foundation
Singapore	A*Star Graduate Academy

Slovenia	Slovenian Academy of Sciences and Arts
South Africa	South African Department of Science and Technology
Spain	Confederación de Sociedades Científicas de España (COSCE)
Sweden	Nobel Foundation
United Arab Emirates	Higher Colleges of Technologies
USA	Department of Energy (DOE) National Institutes of Health (NIH) National Science Foundation (NSF) Oak Ridge Associated Universities (ORAU)

INTERNATIONAL INSTITUTIONS

EMBO	European Molecular Biology Organization
CERN	European Organization for Nuclear Research
HFSP	Human Frontier Science Program
INTAS	The International Association for the Promotion of Cooperation with Scientists from the New Independent States of the Former Soviet Union
UNESCO	United Nations Educational, Scientific and Cultural Organization
WHO	World Health Organization

ACADEMIC PARTNERS IN GERMANY

- Alexander von Humboldt Foundation
- Bavarian Academy of Sciences and Humanities
- Carl Zeiss AG
- Charité Berlin
- Council for Technical Sciences of the Union of German Academies of Sciences and Humanities (Acatech)
- Deutsche Telekom's Charitable Foundation
- Dresden University of Technology
- Eduard Rhein Foundation
- Elite Network of Bavaria
- Ernst Moritz Arndt University of Greifswald
- Evangelisches Studienwerk e.V. Villigst
- Fraunhofer-Gesellschaft
- Friedrich-Alexander-University Erlangen-Nuremberg
- Fulbright Commission
- Georg-August University of Göttingen
- German Academic Exchange Service (DAAD)
- German Academic International Network (GAIN)
- German Research Foundation (DFG)
- Gottlieb Daimler- and Karl Benz-Foundation
- Hanover Medical School
- Heinrich-Heine-University Düsseldorf
- Helmholtz Association of German Research Centres
- International Biology Olympiad
- International University Bremen
- International University of Lake Constance
- Johannes Gutenberg University, Mainz
- Johann-Wolfgang-Goethe-University of Frankfurt
- Jugend Forscht
- Julius-Maximilian-University of Würzburg
- Klaus Tschira Foundation gGmbH
- Konrad Adenauer Foundation
- Ludwig-Maximilians-University Munich
- Max Planck Society for the Advancement of Science
- Munich University of Technology
- Philipps-University Marburg
- Robert Bosch Stiftung
- Ruhr-University Bochum
- RWTH Aachen University
- Saarland University
- Technical University Braunschweig
- Medical Faculty of the Eberhard Karls University
- University Medical Center Hamburg – Eppendorf
- University of Cologne
- University of Duisburg Essen
- University of Freiburg
- University of Heidelberg
- University of Konstanz
- University of Leipzig
- University of Rostock
- University of Ulm
- Verein der Bayerischen Chemischen Industrie e.V.
- Verein Deutscher Ingenieure (VDI)
- Volkswagen Foundation
- Wilhelm Sander-Stiftung
- X-Lab Göttingen
- Young Academy of the North Rhine-Westfalian Academy of Sciences

ALL SELECTED PARTICIPANTS SHALL

- show a genuine interest in science and research,
- show a strong commitment both to their principal field of studies and to the interdisciplinary dialogue with the international academic community,
- receive an unequivocal support of their application by their academic advisor and/or by internationally renowned scientists (received scholarships, other academic awards and research grants can serve as recommendations),
- be fluent in English and an active participant in discussions,
- be familiar with societal impacts of scientific knowledge and its applications,
- not have participated in previous Lindau Meetings,
- deliver fully completed applications.

IT IS INTENDED TO HAVE A GOOD MIXTURE OUT OF THESE THREE GROUPS:

(1) Undergraduate students shall
belong to the top 10 per cent of their class,
possess a solid general knowledge in the natural sciences,
have done some research work.

(2) Master and Doctoral students shall
have excellent academic accomplishments,
have produced outstanding research,
possess a good teaching experience.

(3) Postdoctoral scientists shall
have some postdoctoral experience,
have published results of scientific investigations in refereed journals,
have presented research reports at international conferences,
have acquired solid experience in teaching and tutoring.

Monday, July 2	Tuesday, July 3	Wednesday, July 4	Thursday, July 5
9:00 Craig C. Mello, Massachusetts/USA (Physiology or Medicine 2006) **"RNAi and development in C. elegans"**	9:00 Sir Timothy Hunt, London/GBR (Physiology or Medicine 2001) "The cell cycle and cancer"	9:00 Bert Sakmann, Heidelberg/GER (Physiology or Medicine 1991) **"Gray matter(s)"**	9:00 Richard Roberts, Beverly/USA (Physiology or Medicine 1993) **"Why I love microbes"**
	9:40 Edmond Fischer, Washington/USA (Physiology or Medicine 1992) **"Protein crosstalk in cell signaling"**	9:40 Avram Hershko, Haifa/ISR (Chemistry 2004) **"The ubiquitin system and its roles in the control of cell division"**	9:40 Aaron Ciechanover, Haifa/ISR (Chemistry 2004) **"On the dynamics of our proteins: from basic mechanisms onto the patient bed"**
10:05 BREAK	10:20 BREAK	10:20 BREAK	10:20 BREAK
10:40 Ferid Murad, Texas/USA (Physiology or Medicine 1998) **"Nitric oxide as a messenger molecule and its role in drug development"**	10:50 **ROUND TABLE** **"Basic Science in Molecular Medicine"** Günter Blobel (Physiology or Medicine 1999) Leland H. Hartwell (Physiology or Medicine 2001) Sir Timothy Hunt (Physiology or Medicine 2001) Craig C. Mello (Physiology or Medicine 2006) Chairpersons: Anders Zetterberg, Stockholm/SWE Helmut Sies, Düsseldorf/GER	10:50 Werner Arber, Basle/SUI (Physiology or Medicine 1978) **"Darwinian evolution as understood by scientists of the 21st century"**	10:50 Rolf Zinkernagel, Zurich/SUI (Physiology or Medicine 1996) **„Why do we not have a vaccine against TB or HIV (yet)?"**
11:30 Hartmut Michel, Frankfurt a.M./GER (Chemistry 1988) **"Biofuels – sense or nonsense"**		11:30 Günter Blobel, New York/USA (Physiology or Medicine 1999) **"Nucleo-cytoplasmic traffic"**	11:30 **ROUND TABLE** **"Medical Sciences and Society"** Edmond Fischer (Physiology or Medicine 1992) Avram Hershko (Chemistry 2004) Ferid Murad (Physiology or Medicine 1998) Erwin Neher (Physiology or Medicine 1991) Richard Roberts (Physiology or Medicine 1993) Chairpersons: Hans Jörnvall, Stockholm/SWE Helmut Sies, Düsseldorf/GER
		12:10 Robert Huber, Martinsried/GER (Chemistry 1988) **"Proteolysis and its regulation, a molecular basis"**	
12:10 BREAK	12:20 BREAK	12:50 BREAK	13:00 BREAK
15:00 - 17:00 Scientific discussion between Nobel Laureates and Young Researchers	15:00 - 17:00 **"SCIENCES BAZAAR":** Young Researcher meet Nobel Laureates	15:00 - 17:00 Scientific discussion between Nobel Laureates and Young Researchers	15:00 - 17:00 Scientific discussion between Nobel Laureates and Young Researchers

PROGRAM CHAIRS OF THE 57TH MEETING OF NOBEL LAUREATES:

Prof. Dr.Dr.h.c. Helmut Sies
Professor Sies is Chairman of the Institute for Biochemistry and Molecular Biology I at the Heinrich Heine University Düsseldorf since 1979. Professor Sies was the President of the North Rhine-Westphalian Academy of Sciences (2002-2005). He is a member of the Council for the Lindau Nobel Laureate Meetings since 2005. As a student he took part in the Meeting of Nobel Laureates of the year 1963.

Prof. Dr. Hans Jörnvall
Hans Jörnvall is Professor in Physiological Chemistry at Karolinska Institutet where he was Chairman of the Department of Medical Biochemistry and Biophysics from 1993 to 1999. Since 2000, he has been Secretary of the Nobel Assembly at Karolinska Institutet. Professor Jörnvall is a member of the Council for the Lindau Nobel Laureate Meetings since 1999.

This year, the two Council members **Professor Hans Jörnvall** (left) and **Professor Helmut Sies** were responsible for coordinating and organising the scientific programme.

I. APPLICATION AND SELECTION PROCESS

Due to a revision of the 2006 questionnaire, comparative data from last year is not available for all the questions. However, the responses to the question about the experiences of the selection process show that more participants received feedback from their nominating institution (20%) than was the case in 2006 (7%). Similar to the previous year, less than half of the participants were familiar with the selection process and its criteria. Particular attention will have to be paid in 2008 to raising awareness of the selection process.

A large majority of the participants (73%) was encouraged to apply to attend the Nobel Laureate Meeting in Lindau by an institution (e.g. university, foundation, etc.). The global network of Academic Partners ensures that the best young scientists are given the opportunity to apply.

A further 23 % of the participants contacted either the Council or one of its Academic Partners on their own initiative. They all had to satisfy the selection criteria in both in their home countries as well as in the concluding selection round organised by the Councilís Review Panel.

How did you hear about the 2007 Nobel Laureate Meeting in Physiology or Medicine? **[TOTAL: 520]**

52 %	Academic Institution/University	270
33 %	Funding Organisation (Foundation etc.)	172
2 %	Corporate Institutions	11
7 %	Media Coverage/Internet	35
6 %	Others	32

How was your approach for applying to the Lindau Meeting? **[TOTAL: 498]**

23 %	I heard about the meeting and approached then a nominating institution	116
73 %	I was asked by a nominating institution if I wanted to apply for the meeting	363
4 %	Does not apply	19

What was your experience with the selection process? **[TOTAL: 514 + 9 N.A.]**

47 %	I was aware of the selection procedures and selection criteria	241
20 %	I had professional feedback from my nominating institution	104
33 %	I only received a confirmation from the Review Panel via Internet	169

II. ACADEMIC CREDENTIALS OF THE MEETING

The Lindau Nobel Laureate Meetings are a once-in-a-lifetime experience for young scientists. The survey conducted among all the participants showed that the meeting was able to satisfy the high demands that were expected of it: 94% said that their expectations had been fulfilled or even exceeded. The international aspect of the meeting, its interdisciplinary character and the broadness of the topics that were covered were particularly enthusiastically received by the young scientists from 64 countries.
More than 90% of those had a very good (48.6%) or good (47.1%) overall impression of the scientific programme. In addition to the very good scores given to the talks given by the Nobel Laureates in the mornings, the afternoon discussions and the two podium discussions on the Tuesday, the Sciences Bazaar also met with a positive reception.

The results of the other aspects of the meeting concept show, however, that more changes are still required. Although the podium discussions were for the large part assessed positively, over a third (39%) of those surveyed criticised the lack of controversy among the panel (24% in the 2006 survey). In particular, the assessment of the panel discussing the topic “Natural Sciences and the Humanities” was mostly negative. The consensus of opinion on the podium on the crucial questions concerning striking a bridge between the natural sciences and the humanities prevented the debate from being conducted in a controversial manner.

Student involvement was also assessed as being poorer than last year. In comparison to the 2006 Meeting, not only did fewer Nobel Laureates come to Lake Constance (17), but with 563 young scientists there were also more participants than last year. With the Science Bazaar, the Council has created a new forum within the programme layout that gives the young scientists the opportunity to spend an afternoon holding discussions with the Nobel Laureates.
The concept of the meetings includes the deliberate encouragement of informal encounters between the young scientists of tomorrow and the Nobel Laureates. In conjunction with the scientific programme, it is these encounters that give the Lindau dialogue its unique character. The participants view this combination extremely positively. In addition to the talks given by the Laureates, the concert performed by the UBS Verbier Festival Chamber Orchestra on Wednesday evening and the get-together evening (held this year with the partner state North Rhine-Westphalia were the most popular events of this year’s meeting.

How do you assess the conceptual orientation of the meeting?

INTERNATIONALITY		**[TOTAL: 490 + 1 N.A.]**
2 %	Too international	10
89 %	Appropriate	438
9 %	Not sufficiently international	42

INTERDISCIPLINARITY		**[TOTAL: 510 + 2 N.A.]**
3 %	Too interdisciplinary	17
81 %	Appropriate	414
16 %	Too focused	79

LECTURE TOPICS		**[TOTAL: 487 + 4 N.A.]**
18 %	Too specific	89
76 %	Appropriate	371
6 %	Too broad	27

› How do you assess the conceptual orientation of the meeting?

PANEL TOPICS		[TOTAL: 484 + 11 N.A.]
4 %	Too specific	19
84 %	Appropriate	406
12 %	Too broad	59

PANEL DISCUSSIONS		[TOTAL: 415 + 10 N.A.]
‹ 1 %	Too controversial	2
62 %	Appropriate	257
38 %	Not sufficiently controversial	156

STUDENT INVOLVEMENT		[TOTAL: 380 + 7 N.A.]
3 %	Too much	11
70 %	Appropriate	267
27 %	Too little	102

INTERACTION WITH OTHER PARTICIPANTS		[TOTAL: 502 + 5 N.A.]
2 %	Too much	10
78 %	Appropriate	391
20 %	Too little	101

MY EXPECTATIONS WERE		[TOTAL: 490 + 8 N.A.]
29 %	Exceeded	144
65 %	Met	319
6 %	Not met	27

Please assess the following parts of the programme

GENERAL IMPRESSION OF THE SCIENTIFIC PROGRAMME		[TOTAL: 497 + 2 N.A.]
49 %	Very good	242
46 %	Good	234
4 %	Fair	18
‹ 1 %	Poor	3

PLENARY LECTURES (MORNINGS)		[TOTAL: 497 + 1 N.A.]
47 %	Very good	230
45 %	Good	229
7 %	Fair	37
‹ 1 %	Poor	1

STUDENT DISCUSSIONS WITH LAUREATES (AFTERNOONS)		[TOTAL: 468+ 5 N.A.]
30 %	Very good	143
48 %	Good	224
18 %	Fair	84
4 %	Poor	17

“SCIENCES BAZAAR” (TUESDAY)		[TOTAL: 439 + 24 N.A.]
38 %	Very good	165
38 %	Good	168
14 %	Fair	62
10 %	Poor	44

PANEL DISCUSSION “BASIC SCIENCE IN MOLECULAR MEDICINE” (TUESDAY)		[TOTAL: 482 + 10 N.A.]
41 %	Very good	196
43 %	Good	208
13 %	Fair	64
3 %	Poor	14

PANEL DISCUSSION “MEDICAL SCIENCES AND SOCIETY” (THURSDAY)		[TOTAL: 523 + 9 N.A.]
31 %	Very good	164
33 %	Good	173
25 %	Fair	129
11 %	Poor	57

OPENING CEREMONY		[TOTAL: 451 + 55 N.A.]
30 %	Very good	132
34 %	Good	155
31 %	Fair	140
5 %	Poor	24

PANEL DISCUSSION “NATURAL SCIENCES AND THE HUMANITIES” (SUNDAY)		[TOTAL: 449 + 62 N.A.]
13 %	Very good	58
30 %	Good	133
36 %	Fair	162
21 %	Poor	96

OVERALL BALANCE OF THE PROGRAMME		[TOTAL: 506 + 1 N.A.]
33 %	Very good	169
58 %	Good	291
8 %	Fair	42
‹ 1 %	Poor	4

Which events of the meeting did you enjoy particularly? (several choices possible)	
Opening ceremony	68
Lectures	307
Student discussions	208
“Sciences Bazaar”	185
Panel discussions	209
Get-Together on Monday	238
Dinner with academic institution	94
Concert of UBS Verbier Festival Chamber Orchestra on Wednesday	243
Other:	
Questions for Nobel Laureates | Interaction with young researchers | Bodensee | Lindau | Guided city tour	

III. ORGANISATION OF THE MEETING

The overall organisation of the Lindau Meeting was assessed by 95% of those surveyed as being either "excellent" or "good". The registration procedure, the handling of cost reimbursements and the social programme in particular would seem to have contributed to these very positive results. Good results on a par with 2006 were achieved here.

A comparison of the assessment ratings for the area "Accommodation" shows that this continues to be criticised by some participants. While this may be attributed to the location of some of the hotels and pensions, it could also be put down to the lack of Internet access or the fact that some participants had to share a room. The provision of catering for all the young scientists in a tent next to the Inselhalle and the availability of coffee and drinking water free of charge are a reaction to the 2006 participant survey. The quality of the food on offer would appear to leave scope for improvement, however. Only half (48%) of those surveyed rated the quality of the food as being "Excellent" or "Good"; the other half (52%) described it as being "Fair" or "Poor". In particular, more attention should be paid to cultural specialities such as Indian vegetarian dishes.

Please rate the following aspects of the meeting

OVERALL ORGANIZATION		[TOTAL: 503]
53 %	Very good	267
42 %	Good	213
4 %	Fair	22
< 1 %	Poor	1

REGISTRATION		[TOTAL: 498 + 2 N.A.]
57 %	Very good	282
40 %	Good	198
3 %	Fair	13
< 1 %	Poor	5

INTERNET CAFÉ AND WLAN		[TOTAL: 447 + 38 N.A.]
41 %	Very good	182
43 %	Good	193
12 %	Fair	52
4 %	Poor	20

HOMEPAGE		[TOTAL: 499 + 12 N.A.]
18 %	Very good	90
60 %	Good	299
18 %	Fair	92
4 %	Poor	18

COST REIMBURSEMENT		[TOTAL: 404]
37 %	Very good	148
43 %	Good	174
16 %	Fair	64
4 %	Poor	18

ACCOMMODATION		[TOTAL: 478 + 14 N.A.]
30 %	Very good	143
45 %	Good	213
16 %	Fair	79
9 %	Poor	43

MEALS IN THE TENT		[TOTAL: 489 + 10 N.A.]
6 %	Very good	28
42 %	Good	207
35 %	Fair	174
17 %	Poor	80

SOCIAL PROGRAMME		[TOTAL: 495 + 10 N.A.]
31 %	Very good	155
53 %	Good	264
13 %	Fair	63
3 %	Poor	13

What services did you miss?

Information about the dress-code | More buses | Vegetarian food | Headsets | Participants' mails in the book

IV. BEYOND LINDAU: THE ALUMNI NETWORK

Every year, the Lindau Nobel Laureate Meetings bring together the leading authorities of their respective fields with the best young scientists of tomorrow from all over the world. In doing so, they introduce the scientific elite of tomorrow to Europe as a venue for science and research. In their questionnaire responses, the participants expressed a great interest in learning more about European and German science and research institutions. One platform for such information could be the pending alumni network. In the view of those surveyed, this platform should be used primarily for keeping in contact with one another. Providing information about study and research opportunities in Germany and Europe could open up another field of interest.

Would you be interested in receiving information about German academic institutions and research facilities following your stay in Lindau? **[TOTAL: 472]**

55 %	I am highly interested in it	261
36 %	It would be an option for me	170
9 %	I am not interested in it	41

Would you be interested in receiving information about European academic institutions and research facilities following your stay in Lindau? **[TOTAL: 485]**

64 %	I am highly interested in it	309
34 %	It would be an option for me	163
2 %	I am not interested in it	13

Would you be interested in receiving more information about the Lindau Meeting's Donors and Benefactors and in an interaction with them? **[TOTAL: 495]**

32 %	I am highly interested in it	159
47 %	It would be an option for me	231
21 %	I am not interested in it	105

Please tell us what you expect from an alumni network of the Lindau Nobel Laureate Meetings:

To stay in contact with the participants
Newsletters, reports
Scientific forum
Homepage with profiles of all participants
Information about the meetings

The Council for the Lindau Nobel Laureate Meetings and the Foundation Lindau Nobelprize-winners Meetings at Lake Constance thank all Patrons and Donors for their support.

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The Council for the Lindau Nobel Laureate Meetings and the Foundation Lindau Nobelprize-winners Meetings at Lake Constance thank all Benefactors for their support.

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Preliminary Account for the 57th Meeting of Nobel Laureates in Lindau (as per September 1st, 2007)

REVENUES

Description

Donations and funds from the public sector (e.g. European Commission, Bundesministerium für Bildung und Forschung, Bayer. Staatsministerium für Wissenschaft, Forschung und Kunst, Internationale Bodenseekonferenz, Stadt Lindau), **from institutions aiding the advancement of science** (e.g. Berg-Stiftung im Stifterverband für die Deutsche Wissenschaft, Deutsche Forschungsgemeinschaft, Gerda Henkel Stiftung, Stifterverband für die Deutsche Wissenschaft), **from industry** (e.g. Bayer AG, Bayerische Staatliche Lotterieverwaltung, Boehringer Ingelheim, Deutsche Bank AG, EnBW Energie Baden-Württemberg AG, Elsevier Publishers BV, NN, ProLindau Marketing GmbH&Co KG, Sparkasse Memmingen-Lindau-Mindelheim, Südkurier GmbH, ZF Friedrichshafen AG) **and charitable or non-profit organisations** (e.g. Deutsche Telekom Stiftung, Peter Dornier-Stiftung, Eduard Rhein Stiftung, Fritz Thyssen Stiftung, INTAS, NN, Robert Bosch Stiftung, Stiftungsfonds der Deutschen Bank im Stifterverband für die Deutsche Wissenschaft, Stiftung van Meeteren, Wilhelm Sander-Stiftung and Foundation Lindau Nobelprizewinners Meetings at Lake Constance with its **Principle Patrons** (Audi AG, Bertarelli Foundation, Deutsche Bank AG, Ecoscientia Stiftung, EnBW Energie Baden-Württemberg AG, Lonza Group AG, Mars Inc., Novartis International AG, Dr. Ing. h.c. F. Porsche AG, SAP AG, Siemens AG, Südwestmetall Baden-Württemberg, Verein der Bayerischen Chemischen Industrie, Verband der Bayerischen Metall- u. Elektroindustrie e.V.) and **Patrons** (Deutsche Telekom Stiftung, Jungbunzlauer AG, Monika and Wolfgang Schürer, Synthes-Stratec Inc., Verein Deutscher Ingenieure (VDI), Hansjörg Wyss Medical Foundation)

Amount **860.730 EUR**

Participant fees for young scientists taken over by benefactors and subsidies or reimbursements of lodging and travel expenses of young researchers (among them the Alexander von Humboldt-Stiftung, Carl Zeiss AG, DAAD, Department of Energy, Deutsche Telekom AG, Deutsche Telekom Stiftung, Elitenetzwerk Bayern, European Commission, Fraunhofer-Gesellschaft zur Förderung der angewandten Forschung e.V., Gottlieb Daimler und Karl Benz Stiftung, Helmholtz Gemeinschaft, Human Science Frontier Program, Konrad Adenauer Stiftung, Max Planck Gesellschaft, National Instituts of Health, National Science Foundation, NN, Nobel Foundation Stockholm, Oak Ridge Associated Universities, Professor Rhein Stiftung, Schweizerische Studienstiftung, Siemens AG, UNESCO, Verband der Chemischen Industrie, VolkswagenStiftung)

Amount **291.036 EUR**

TOTAL SUM OF REVENUES **Amount** **1.151.766 EUR**

Any deficit which may arise upon presentation of all costs as of December 31st, 2007, will be balanced by an existing letter of indemnity provided by the Foundation Lindau Nobelprizewinners Meetings at Lake Constance.

EXPENDITURES

Description		
Printing costs and printed materials	43.709,89	EUR
External services	50.565,82	EUR
Translation and interpreting costs	7.801,67	EUR
Costs for selection process of participants	24.828,49	EUR
Rent for conference venue	23.127,92	EUR
PR (including outreach activities)	40.769,88	EUR
Technical Equipment of the conference	74.434,95	EUR
General travel expenses	20.919,11	EUR
Travel expenses for Nobel Laureates	34.528,00	EUR
Travel expenses for participants	33.641,54	EUR
Travel expenses for programme chairs and Council	11.014,63	EUR
General Boarding costs	3.707,55	EUR
Boarding costs for Nobel Laureates	30.844,90	EUR
Boarding costs for participants	91.999,47	EUR
Boarding costs for Council	4.323,26	EUR
General lodging costs	5.617,50	EUR
Lodging costs for Nobel Laureates	30.600,70	EUR
Lodging costs for Participants	153.294,59	EUR
Lodging costs for programme chairs and Council	14.885,16	EUR
Postage	4.987,60	EUR
Telephone	4.988,51	EUR
Internet (website and global broadcasting)	144.639,61	EUR
Office equipment	4.173,52	EUR
Newspapers, books	1.983,51	EUR
Overheads for financial transactions	294,85	EUR
Insurances	5.928,63	EUR
Operating costs (rent, electricity, water etc.)	2.063,25	EUR
Interim total of Expenditures	**869.674,51**	**EUR**
Accounting costs	3.631,41	EUR
Staffing, wages and salaries incl. payroll taxes	170.042,94	EUR

TOTAL SUM OF EXPENDITURES **Amount** **1.043.348,86 EUR**

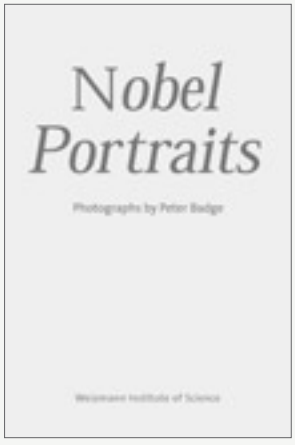
Expected expenditures 9/2007 - 12/2007 150.000,00 EUR

Additional donations in kind and pro-bono services (among them AUDI AG, Big Image Systems GmbH, Business Wire, Deutsche Lufthansa AG, Deutsche Telekom AG / Laboratories, Dr. Leutenecker & Partner, Lennart Bernadotte Stiftung, MAN AG, MS Management Service AG, PricewaterhouseCoopers AG, Sennheiser electronic GmbH&Co KG, Stadtwerke Lindau, UBS AG).

'NOBEL FACES' – PORTRAITS BY PETER BADGE

The portraits of the Nobel Laureates used in this report (see p. 4/5) are part of a project set up by the Foundation Lindau Nobelprizewinners Meetings at Lake Constance and supported by the Klaus Tschira Stiftung gGmbH. Since the year 2000, Peter Badge has been taking photographs of all the personalities who have been awarded the Nobel Prize. The product is a kaleidoscope of impressive people who, over and beyond their expertise in data and information, stand for a constant striving for excellence. The encouragement of such excellence in subsequent generations of scientists marks the spirit of the Nobel Laureate Meetings on Lake Constance, where many of the portraits were taken.
The first volume with the title "Nobelpreisträger = Nobel Laureates // fotografiert von Peter Badge" was published in 2001 and featured 69 Laureate portraits. Following the first addition of new portraits in 2004, "Nobel Faces – A Gallery of Nobel Prize Winners" is due to be published this year by Wiley-VCH Verlag (Weinheim). This edition contains 295 impressive black-and-white portraits of Nobel Laureates from the disciplines of physiology or medicine, physics and chemistry. It also includes portraits of holders of the Nobel Prize in Literature and the Nobel Peace Prize, as well as of winners of the Prize in Economic Sciences, awarded by the Bank of Sweden in memory of Alfred Nobel.

In March 2007, the Weizmann Institute presented portraits of 42 Nobel Laureates by Peter Badge at its Nella and Leon Benoziyo Physics Library. The special edition compiled for this exhibition was a gift from the Foundation Lindau Nobelprizewinners Meetings at Lake Constance. The publication of the accompanying exhibition catalogue was made possible by the support of Mars, Inc.
All the personalities featured in the exhibition have one thing in common: their connection with the Weizmann Institute. They are either members of the Weizmann Institute Board of Governors or its Scientific and Academic Advisory Committee, or have been awarded honorary doctorates by the institute, given the Weizmann Memorial Lecture or have conducted research at the institute as guest scientists. In addition to Nobel Laureates from the field of natural science such as Edmund H. Fischer (Physiology or Medicine 1992) and Arno Allan Penzias (Physics 1978), the portraits also include winners of the Nobel Peace Prize, among them Shimon Peres (1994) and Henry A. Kissinger (1973).
The exhibition was opened on March 14, 2007 in the presence of the photographer together with Professor Aaron Ciechanover (2004 Nobel Laureate in Medicine or Physiology) and Professors Haim Harari (President of the Weizmann Institute 1988 - 2001) and Daniel Zajfman (current President of the Weizmann Institute). Professor Wolfgang Schürer, Chairman of the Board of the Foundation Lindau Nobelprizewinners Meetings at Lake Constance, and Nikolaus Turner, member of the Executive Committee of the Council for the Lindau Nobel Laureate Meetings, took part in the opening ceremony. The Bernadotte family was represented by Count Björn Bernadotte.



Photographer **Peter Badge** (above) has portrayed Nobel Laureates: "Nobel Faces" will be published by the end of this year. A special exhibition catalogue for the exhibition at the Weizmann Institute was made possible by Mars, Inc.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MEETINGS OF NOBEL LAUREATES
LINDAU