Programme
67th Lindau Nobel Laureate Meeting
25 – 30 June 2017
MEETING APP

WANT TO STAY UP TO DATE?
Download the Lindau Nobel Laureate Meetings App.

- Up to date programme info & details
- Session abstracts and poster abstracts
- Ask questions during panel discussions
- Participate in polls and surveys
- Interactive maps
- Connect to other participants
- Social media integration

Download the app ("Lindau Nobel Laureate Meetings") in Android or iTunes app stores. Within the app, use the passphrase "quasicrystals" to download the guide for the 67th Lindau Nobel Laureate Meeting.

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The 67th Lindau Nobel Laureate Meeting takes place during a climate of intense debate in society and science. Radical ideologies and remerging separatist or nationalist sentiments add to a growing sense of insecurity and isolation. Further uncertainty is created by the trend of post-factual statements and science denial in public discourse.

In 1951, the vision of the founders Franz Karl Hein, Gustav Wilhelm Parade and Count Lennart Bernadotte was to reconnect German scientists to the international scientific community, to overcome the borders between nations and minds and to work towards a future of peace and scientific progress. Given today’s volatile global situation, the importance of this idea is as clear as ever. Peter Agre, Nobel Laureate in Chemistry and a close friend of the Lindau Meetings, once called science “a wide-ranging effort that naturally crosses borders.” This effort is apparent during this week of cross-cultural, intergenerational encounters.

For the young scientists, the Lindau Nobel Laureate Meeting is a once-in-a-lifetime experience that hopefully has a lifelong impact. Every year, the extraordinary “Lindau spirit” creates lasting personal connections and professional networks. Over the last 66 years, about 32,000 young scientists took part in the meetings. Our alumni initiative aims to identify existing connections and to retie loose ends. Launched in time for the 67th Lindau Nobel Laureate Meeting, a new online community offers a space to connect, discover and collaborate with fellow Lindau alumni.

Each year, we aim to give young scientists more opportunities to present their work. This year we are adding poster flashes, short presentations, to established formats such as master classes and afternoon discussions. For the second year in a row the meeting app will allow up-to-date programme information and new exchange opportunities.

The Science Trail, a public exhibition project integrating science into the Lindau city space, is a new addition to our outreach efforts as part of our “Mission Education”. Citizens and tourists alike can learn about Nobel Prize-awarded discoveries in prominent locations. The Science Trail, with 18 pylons distributed across Lindau and three pylons on Mainau Island, will be opened on 29 June during the meeting week. A corresponding augmented reality app will enhance the learning experience. Later this summer, a pier will be erected to honour the Nobel Laureates who have enriched past and present Lindau Meetings.

Through dialogue and discovery, science can offer solutions to the problems of today. In the spirit of Alfred Nobel, science can champion the wellbeing of humanity. This, too, is the unique spirit of Lindau.

We wish you a most rewarding week in Lindau!

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We wish you a most rewarding week in Lindau!

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Council for the Lindau Nobel Laureate Meetings
Foundation Lindau Nobel Laureate Meetings
30 NOBEL LAUREATES

PETER AGRE  MARTIN CHALFIE
STEVEN CHU  AARON CIECHANOVER
PAUL J. CRUTZEN  JOHANN DEISENHOFER
BERNHARD L. FERINGA  WALTER GILBERT
HARALD ZUR HAUSEN  STEFAN W. HELL
AVRAM HERSHKÖ  ROBERT HUBER
KLAUS VON KLITZING  JEAN-MARIE LEHN
TOMAS LINDAHL  RUDOLPH A. MARCUS
HARTMUT MICHEL  WILLIAM E. MOERNER
MARIO J. MOLINA  FERID MURAD
EI-ICHI NEGISHI  ERWIN NEHER
JEAN-PIERRE SAUVAGE  RICHARD R. SCHROCK
DAN SIECHTMAN  GEORGE F. SMOOT
THOMAS A. STEITZ  SIR JOHN E. WALKER
KURT WÜTHRICH  ADA E. YONATH
# Programme Overview

## Sunday, 25 June
- **07.00**
  - Breakfast hosted by Mexico

## Monday, 26 June
- **07.00**
  - Breakfast hosted by Rolex SA
- **08.00**
  - Lecture: Feringa
- **09.00**
  - Coffee Break
- **10.00**
  - Lecture: Chalfie
- **11.00**
  - Lecture: Marcus
- **12.00**
  - Lunch Break
- **13.00**
  - Young Scientists Discussions: Chalfie | Chalif | Feringa
- **14.00**
  - Poster Session with 30 Selected Posters from Young Scientists
- **15.00**
  - Break
- **16.00**
  - Masterclasses: Ciechanover | Schrock | Würthrich
- **17.00**
  - Dinner at various locations

## Tuesday, 27 June
- **07.00**
  - Breakfast hosted by Mars, Incorporated
- **08.00**
  - Lecture: Hell
- **09.00**
  - Coffee Break
- **10.00**
  - Lecture: Moerner
- **11.00**
  - Lecture: Smoot
- **12.00**
  - Lunch Break
- **13.00**
  - Young Scientists Discussions: Hell | Hersko | Hershko | Moerner | Molina | Neher | Smoot | von Klitzing
- **14.00**
  - Social Function: Heidelberg Lecture

## Wednesday, 28 June
- **07.00**
  - Breakfast hosted by BASF SE
- **08.00**
  - Lecture: zur Hausen
- **09.00**
  - Coffee Break
- **10.00**
  - Lecture: Murad
- **11.00**
  - Lecture: Ciechanover
- **12.00**
  - Lunch Break
- **13.00**
  - Lecture: Deisenhofer
- **14.00**
  - Lunch Break
- **15.00**
  - Lecture: Huber
- **16.00**
  - Lecture: Würthrich
- **17.00**
  - Lecture: Lehn
- **18.00**
  - Lecture: de Heiliger
- **19.00**
  - Panel Discussion: Current and Future Game Changers in Chemistry
- **20.00**
  - Poster Flashes: Chu | Lindahl | Marcus | Michel | Walker

## Thursday, 29 June
- **07.00**
  - Breakfast hosted by McKinsey & Company, Inc.
- **08.00**
  - Lecture: Schrock
- **09.00**
  - Lecture: Negishi
- **10.00**
  - Lecture: Sauvage
- **11.00**
  - Lecture: Shechtman
- **12.00**
  - Lunch Break
- **13.00**
  - Lecture: Stieglitz
- **14.00**
  - Lunch Break
- **15.00**
  - Lecture: Shechtman
- **16.00**
  - Lecture: Stieglitz
- **17.00**
  - Lecture: Yonath
- **18.00**
  - Lecture: Ciechanover
- **19.00**
  - Lecture: Schrock
- **20.00**
  - Lecture: Shechtman
- **21.00**
  - Lecture: Shechtman
- **22.00**
  - Lecture: Shechtman

## Friday, 30 June
- **07.00**
  - Breakfast hosted by Rolex SA
- **08.00**
  - Breakfast hosted by the Austrian Federal Ministry of Science, Research and Economy
- **09.00**
  - Breakfast hosted by the Austrian Federal Ministry of Science, Research and Economy
- **10.00**
  - Breakfast hosted by Rolex SA
- **11.00**
  - Ethics in Sciences: Kovac | Lerch | Stroobants | Üzümcü
- **12.00**
  - Science Picnic on the Aboretum Lawn
- **13.00**
  - Bavarian Evening hosted by the State of Baden-Württemberg
- **14.00**
  - Farewell Ceremony
- **15.00**
  - Science Careers: Gianetti | Shana a | Shechtman | Steffenfeld | Walker
- **16.00**
  - Break
- **17.00**
  - Baden-Württemberg Boat Trip to Lindau hosted by the State of Baden-Württemberg
- **18.00**
  - Baden-Württemberg Boat Trip to Lindau hosted by the State of Baden-Württemberg
- **19.00**
  - Baden-Württemberg Boat Trip to Lindau hosted by the State of Baden-Württemberg
- **20.00**
  - Dinner at various locations
- **21.00**
  - Dinner at various locations
- **22.00**
  - Dinner at various locations
10.00 Meeting Registration
for young scientists in the primary school gym (Turnhalle) from 10.00
– 20.00 hrs continuously / for guests and journalists in the meeting
venue Stadttheater from 10.00 – 18.30 hrs continuously

15.45 Seats for the Opening Ceremony need to be taken by 15.45 hrs at the
latest. Strictly no access after 15.45 hrs.

16.00 Opening Ceremony
Welcome
Countess Bettina Bernadotte
President of the Council for the Lindau Nobel Laureate Meetings

Greetings from Stockholm
Astrid Gräslund
Official Representative of the Nobel Foundation, Sweden
Former Secretary of the Nobel Committee of Chemistry

Address
Johanna Wanka
Federal Minister of Education and Research, Germany

Keynote: Science as an Insurance Policy to the Risks of
Climate Change
Steven Chu
Nobel Laureate in Physics 1997, Stanford University, United States

Master of Ceremony
Ingolf Baur, 3sat, Germany

Musical Accompaniment
Ensemble of the Vienna Philharmonic Orchestra

Access: Nobel Laureates, young scientists, guests, journalists (by
invitation only). Additional capacities are available at the inner courtyard.

17.30 Break

18.00 Dinner
Please see your personal agenda for details.
MONDAY, 26 JUNE

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<th>Partner Event</th>
<th>Science and Public Policy</th>
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<td>Science Breakfast</td>
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<tr>
<td></td>
<td>Hotel Bayer. Hof</td>
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</table>

José Franco  
Former President, Mexican Academy of Sciences, Mexico

Mario Molina  
Centro Mario Molina para Estudios Estratégicos sobre Energía y Medio Ambiente A.C., Mexico

José Octavio Saucedo Lucero  
Department of Processes and Technology, Autonomous Metropolitan University (UAM), Mexico

Ana Elizabeth Torres-Hernández  
Department of Chemical Engineering, Texas A&M University, United States

Moderator: Arturo Borja Tamayo  
Director of International Cooperation, Consejo Nacional de Ciencia y Tecnología (CONACYT), Mexico

Access: with online pre-registration only

09.00  
Lecture  
Stadttheater  
Bernard L. Feringa  
The Joy of Discovery

09.30  
Lecture  
Stadttheater  
Martin Chalfie  
Robustness in Cell Development

10.00  
Coffee Break  
hosted by Mexico

10.30  
Lecture  
Stadttheater  
Tomas Lindahl  
DNA Instability and the Role of TREX1

11.00  
Lecture  
Stadttheater  
Sir John E. Walker  
The ATP Synthase in Cellular Life and Death

11.30  
Lecture  
Stadttheater  
Rudolph A. Marcus  
What Can Be Learned about the Enzyme ATPase from Single Molecule Studies of its Subunit F1 and What Not?

12.00  
Coffee Break  
hosted by Mexico

12.30  
Lecture  
Stadttheater  
Hartmut Michel  
Oxygen Reduction and Energy Conservation by Membrane Integrated Terminal Oxidases

13.00  
Lecture  
Stadttheater  
Steven Chu  
Biological Imaging: from the Molecules to Man

13.30  
Lunch Break  
hosted by Mexico

Access: young scientists, Nobel Laureates

15.00  
Discussion  
Hotel Bayer. Hof  
Martin Chalfie  
Discussion with Young Scientists

15.00  
Discussion  
Hotel Bayer. Hof  
Steven Chu  
Discussion with Young Scientists

15.00  
Discussion  
Forum am See  
Bernard L. Feringa  
Discussion with Young Scientists

15.00  
Discussion  
Hotel Bayer. Hof  
Tomas Lindahl  
Discussion with Young Scientists

15.00  
Discussion  
Hotel Bayer. Hof  
Rudolph A. Marcus  
Discussion with Young Scientists

15.00  
Discussion  
Evang. Hospital  
Hartmut Michel  
Discussion with Young Scientists

15.00  
Discussion  
Landratsamt  
Sir John E. Walker  
Discussion with Young Scientists
MONDAY, 26 JUNE

16.15
Break

16.30
Stadttheater
Poster Flashes
30 young scientists will present their poster in a short, 2-minute presentation. All posters can be viewed on Tuesday and Wednesday from 13.00 to 19.00 hrs and on Thursday from 13.00 to 16.30 hrs in the primary school gym (Turnhalle).
Access: all participants

18.00
Stadttheater
Boarding & Transfer to Friedrichshafen (Dornier Museum)
hosted by Mexico
Access: Nobel Laureates, young scientists
Access for guests/journalists by invitation only
For Nobel Laureates:
Transfer either from your hotel or Toskanapark.
For guests, journalists and young scientists:
Meeting point for the transfer is at Toskanapark.
Please make sure to be there on time.

19.00
Social Function
Friedrichshafen
International Get-Together
hosted by Mexico
Welcome
Countess Bettina Bernadotte
President of the Council for the Lindau Nobel Laureate Meetings
Welcome Address
Aurelio Nuño Mayer
Minister of Public Education, Gobierno de la República México
Science in Mexico: Research and Policies
Enrique Cabrero Mendoza
Director, Consejo Nacional de Ciencia y Tecnología (CONACYT), Mexico
Master of Ceremony
Christian González Laporte
Representative for Europe, Consejo Nacional de Ciencia y Tecnología (CONACYT), Belgium
Cultural Performance
Musical Group: Mariachi El Dorado
Dinner
Access: Nobel Laureates, young scientists
Access for guests/journalists by invitation only
Departure (Dornier Museum, Friedrichshafen)
Return buses will go to various destinations:
• Lindau Island (all hotels on Lindau Island)
• Bad Schachen (Hotel Bad Schachen, Villa Alwind, Hotel Ebnet Garni, Parkhotel Lindau, Hotel Schachener Hof, MAXHOTEL)
• Aeschach Reutin (Hotel-Café Ebner, Hotel Schöngarten, das mietwerk, Hotel-Gasthof Köchlin)
Please make sure to check the signage on the buses.

23.00
Friedrichshafen
Arrival (Lindau)
TUESDAY, 27 JUNE

**Partner Event**

07.00
Science Breakfast  
Hotel Bayer. Hof

**Excellence in Science and Exploration**
hosted by Rolex SA

*Martin Chalfie*
Department of Biological Sciences, Columbia University, United States

*Francesco Sauro*
Scuola di Scienze, Università di Bologna, Italy, and La Venta Geographical Explorations

*Hosam Zowawi*
King Saud bin Abdulaziz University for Health Sciences, Saudi Arabia and University of Queensland, Australia

**Moderator:** Mary O’Mahony
Rolex SA, Switzerland

Access: with online pre-registration only

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**Partner Event**

07.00
Partner Breakfast  
Hotel Bayer. Hof

**Carbon Dioxide Recycling to Useful Chemical Products and Synthetic Fuels**
hosted by Austrian Federal Ministry of Science, Research and Economy

*Anna Eibel*
Institute of Physical and Theoretical Chemistry, Graz University of Technology, Austria

*Bernard L. Feringa*
Faculty of Science and Engineering, University of Groningen, Netherlands

**Moderator:** Niyazi Serdar Sarıçiftçi  
Head of Linz Institute for Organic Solar Cells (LIOS), Institute of Physical Chemistry, Johannes Kepler University of Linz, Austria

Access: with online pre-registration only

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09.00
Lecture  
Stadthäuser

*Stefan W. Hell*
Nanoscopy with Focused Light

09.30
Lecture  
Stadthäuser

*William E. Moerner*
What Can You Learn from Watching Single Molecules?

10.00
Coffee Break

10.30
Lecture  
Stadthäuser

*George F. Smoot*
Cosmic Connections

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11.00
Lecture  
Stadthäuser

*Klaus von Klitzing*
A New International System of Units: From a New Mole to a New Kilogram

11.30
Lecture  
Stadthäuser

*Mario J. Molina*
Climate Change: Science, Policy and Risks

12.00
Coffee Break

12.30
Lecture  
Stadthäuser

*Erwin Neher*
In-Situ Ca++ - Imaging and Fluorescent Proteins: Using the Tools of Roger Tsien

13.00
Lecture  
Turnhalle

*Avram Hershko*
Lessons from the Discovery of the Ubiquitin System

13.30
Lunch Break  
Access: young scientists, Nobel Laureates

15.00
Discussion  
Forum am See

*Stefan W. Hell*
Discussion with Young Scientists

15.00
Discussion  
Landratsamt

*Avram Hershko*
Discussion with Young Scientists

15.00
Discussion  
Altes Rathaus

*William E. Moerner*
Discussion with Young Scientists

15.00
Discussion  
Evang. Hospital

*Mario J. Molina*
Discussion with Young Scientists
TUESDAY, 27 JUNE

15.00
Discussion
Altes Rathaus
Erwin Neher
Discussion with Young Scientists

15.00
Discussion
Stadtheater
George F. Smoot
Discussion with Young Scientists

15.00
Discussion
Altes Rathaus
Klaus von Klitzing
Discussion with Young Scientists

16.30
Break

17.00
Master Class
Hotel Bayer. Hof
Master Class with Aaron Ciechanover
Proteins and their Modifications in Health and Disease
Franziska Doll
Department of Chemistry, University of Konstanz and Konstanz Research School Chemical Biology, Germany
Nancy Fang
Department of Genetics, Harvard Medical School, United States
Florian Meier
Max Planck Institute of Biochemistry, Germany
Karen Stroobants
Department of Chemistry, University of Cambridge, United Kingdom
Annika Weber
Max-Delbrück-Center for Molecular Medicine, Germany
Access: young scientists, first come, first served

17.00
Master Class
Hotel Bayer. Hof
Master Class with Richard R. Schrock
Olefín Metathesis in Organic and Polymer Chemistry
Jeffrey Brufaerts
Schulich Faculty of Chemistry, Technion - Israel Institute of Technology, Israel
Rebecca Musgrave
Faculty of Science, School of Chemistry, University of Bristol, United Kingdom
Oleksandra Trofymchuk
Universidad de Talca, Chile
Access: young scientists, first come, first served

17.00
Master Class
Hotel Bayer. Hof
Master Class with Kurt Wüthrich
Studies of Rate Processes in Chemical and Biological Systems by NMR and/or EPR
Jean-Philippe Demers
Center for Cancer Research, National Cancer Institute, United States
Thibault Viennet
Institute of Complex Systems, Forschungszentrum Jülich, Germany
Cecilia Wallin
Department of Biochemistry and Biophysics, Stockholm University, Sweden
Access: young scientists, first come, first served

18.30
Break

19.00
Social Function
Various Locations
Academic Dinners
upon invitation of the academic partners
Access: by invitation only

19.00
Social Function
Toskanapark
Grill & Chill: Connecting Cultures
upon invitation of the Council & Foundation
Access: by invitation only

MISSED SOMETHING?
Watch it online at mediatheque.lindau-nobel.org
WEDNESDAY, 28 JUNE

<table>
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<tr>
<td>07.00</td>
<td>Science Breakfast Partner Event</td>
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<tr>
<td>07.00</td>
<td>The Chemistry of Food: Flavor and Beyond</td>
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<tr>
<td>07.00</td>
<td>hosted by Mars, Incorporated</td>
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<td>07.00</td>
<td><strong>Aaron Ciechanover</strong></td>
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<td>07.00</td>
<td>Tumor and Vascular Biology Research Center, Technion - Israel Institute of Technology, Israel</td>
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<td>07.00</td>
<td><strong>Thomas Hofmann</strong></td>
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<td>07.00</td>
<td>Food Chemistry and Molecular Sensory Science, Technische Universität München (TUM), Germany</td>
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<td>07.00</td>
<td><strong>Young Scientist (tbd)</strong></td>
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<td>07.00</td>
<td><strong>Moderator: Adam Smith</strong></td>
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<td>07.00</td>
<td>Chief Scientific Officer, Nobel Media AB</td>
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<tr>
<td>07.00</td>
<td>Access: with online pre-registration only</td>
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<tr>
<td>09.00</td>
<td>Lecture Stadttheater</td>
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<td>09.00</td>
<td>Harald zur Hausen</td>
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<td>09.00</td>
<td>Pathogenicity of Bovine Bacterial Plasmid-Derived Virus-Like Infections</td>
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<td>09.30</td>
<td>Lecture Stadttheater</td>
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<td>09.30</td>
<td>Ferid Murad</td>
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<td>09.30</td>
<td>Role of Nitric Oxide and Cyclic GMP in Cell Signaling and Drug Development</td>
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<td>10.00</td>
<td>Coffee Break</td>
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<td>10.30</td>
<td>Lecture Stadttheater</td>
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<td>10.30</td>
<td>Aaron Ciechanover</td>
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<tr>
<td>10.30</td>
<td>The Revolution of Personalized Medicine: Are we going to Cure all Diseases and at What Price?</td>
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<td>11.00</td>
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<td>11.00</td>
<td>Johann Deisenhofer</td>
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<td>11.00</td>
<td>On the Structural Biology of Photosynthetic Light Reactions</td>
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<td>11.30</td>
<td>Lecture Stadttheater</td>
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<td>11.30</td>
<td>Robert Huber</td>
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<tr>
<td>11.30</td>
<td>New Ways of Vision: Protein Structures in Translational Medicine and Business Development, my Experience</td>
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<td>12.00</td>
<td>Coffee Break</td>
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<td>Lecture Stadttheater</td>
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<td>12.30</td>
<td>Kurt Wüthrich</td>
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<td>12.30</td>
<td>Aromatic Ring Flips in Protein Dynamics</td>
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<td>13.00</td>
<td>Jean-Marie Lehn</td>
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<td>13.00</td>
<td>Toward Adaptive Chemistry</td>
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<td>13.00</td>
<td>Poster Session Turnhalle</td>
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<tr>
<td>13.00</td>
<td>The poster session gives a selected number of young scientists the opportunity to show their posters in the primary school gym (Turnhalle) next to the meeting venue. Attendance is open to all from 13.00 to 19.00 hrs.</td>
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<tr>
<td>13.30</td>
<td>Lunch Break Catering Tent</td>
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<tr>
<td>13.30</td>
<td>Access: young scientists, Nobel Laureates</td>
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<td>Panel Discussion Stadttheater</td>
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<td>Current and Future Game Changers in Chemistry</td>
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<td>15.00</td>
<td>Steven Chu</td>
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<td>15.00</td>
<td>Physics Department, Stanford University, United States</td>
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<td>Jörg Huslage</td>
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<td>15.00</td>
<td>Volkswagen Group, Germany</td>
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<td>15.00</td>
<td>Richard R. Schrock</td>
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<td>15.00</td>
<td>Department of Chemistry, MIT Massachusetts Institute of Technology, United States</td>
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<td>15.00</td>
<td>Siddulu Talapaneni</td>
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<td>15.00</td>
<td>Future Industries Institute, University of South Australia (UniSA), Australia</td>
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<tr>
<td>15.00</td>
<td><strong>Moderator: Geoffrey Carr</strong></td>
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<td>15.00</td>
<td>Science Editor, The Economist, United Kingdom</td>
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<tr>
<td>16.30</td>
<td>Break</td>
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# WEDNESDAY, 28 JUNE

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<th>Event</th>
<th>Location</th>
<th>Speaker(s)</th>
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<tr>
<td>17.00</td>
<td>Discussion</td>
<td>Forum am See</td>
<td>Aaron Ciechanover</td>
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<tr>
<td></td>
<td>Discussion with Young Scientists</td>
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<tr>
<td>17.00</td>
<td>Discussion</td>
<td>Altes Rathaus</td>
<td>Johann Deisenhofer</td>
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<td>Discussion with Young Scientists</td>
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<td>17.00</td>
<td>Discussion</td>
<td>Altes Rathaus</td>
<td>Robert Huber</td>
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<td>Discussion with Young Scientists</td>
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<td>17.00</td>
<td>Discussion</td>
<td>Hotel Bayer. Hof</td>
<td>Jean-Marie Lehn</td>
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<td>Discussion with Young Scientists</td>
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<td>17.00</td>
<td>Discussion</td>
<td>Hotel Bayer. Hof</td>
<td>Ferid Murad</td>
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<td>Discussion with Young Scientists</td>
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<td>17.00</td>
<td>Discussion</td>
<td>Landratsamt</td>
<td>Kurt Wüthrich</td>
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<td>Discussion with Young Scientists</td>
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<td>17.00</td>
<td>Discussion</td>
<td>Hotel Bayer. Hof</td>
<td>Harald zur Hausen</td>
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<td>Discussion with Young Scientists</td>
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<tr>
<td>18.30</td>
<td>Break</td>
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<tr>
<td>19.00</td>
<td>Heidelberg Lecture</td>
<td>Stadttheater</td>
<td>Joseph Sifakis</td>
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<tr>
<td></td>
<td>Heidelberg Lecture:</td>
<td></td>
<td>On the Nature of Computing</td>
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<td></td>
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<td></td>
<td>In accordance with Klaus Tschira’s idea, the Heidelberg Laureate Forum</td>
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<td></td>
<td>where Abel, Fields and Turing Laureates meet the next generation was</td>
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<td></td>
<td></td>
<td>modelled after the Lindau Nobel Laureate Meetings. The Lindau and</td>
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<td></td>
<td></td>
<td>Heidelberg Lecture series show the strong affiliation. Joseph Sifakis was</td>
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<td></td>
<td></td>
<td></td>
<td>awarded the ACM A.M. Turing Award in 2007.</td>
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<td></td>
<td>Dinner</td>
<td>Catering Tent</td>
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<td></td>
<td>Access: young scientists</td>
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<tr>
<td></td>
<td>Dinner starts after the preceeding lecture.</td>
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# THURSDAY, 29 JUNE

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
<th>Speaker(s)</th>
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<tbody>
<tr>
<td>07.00</td>
<td>Circular Economy – How do we make it happen?</td>
<td>Hotel Bayer. Hof</td>
<td>Walter Gilbert</td>
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<tr>
<td></td>
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<td>Harvard University, United States</td>
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<td>Robert Huber</td>
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<td>Max Planck Institute of Biochemistry, Germany</td>
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<td>Jean-Marie Lehn</td>
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<td></td>
<td>Université de Strasbourg, France</td>
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<td></td>
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<td></td>
<td>Ei-ichi Negishi</td>
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<td>H.C. Brown Laboratories of Chemistry, Purdue University, United States</td>
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<td></td>
<td>Host: Thomas Weber</td>
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<td>Senior Vice President Innovation Management, BASF SE, Germany</td>
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<td>Moderator: Anja Feldmann</td>
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<td>BASF Personal Care and Nutrition GmbH, Germany</td>
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<td>Access: with online pre-registration only</td>
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<tr>
<td>07.00</td>
<td>Stronger Science Leadership as Basis for Innovation in a Disruptive</td>
<td>Eilguthalle</td>
<td>Florian Budde</td>
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<tr>
<td></td>
<td>World</td>
<td></td>
<td>Senior Partner, McKinsey &amp; Company, Inc., Germany</td>
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<td>Hartmut Michel</td>
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<td>Max Planck Institute of Biophysics, Germany</td>
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<td>Young Scientist (tbd)</td>
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<td>Host: Matthias Evers</td>
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<td></td>
<td>Senior Partner, McKinsey &amp; Company, Inc., Germany</td>
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<td>Access: with online pre-registration only</td>
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<tr>
<td>09.00</td>
<td>Richard R. Schrock</td>
<td>Stadttheater</td>
<td>C-C Bond Formation</td>
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<td></td>
<td>Catalytic Reduction of Dinitrogen to Ammonia</td>
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<tr>
<td>09.30</td>
<td>Ei-ichi Negishi</td>
<td>Stadttheater</td>
<td>Magical Power of d-block Transition Metals as Exemplified by Catalytic</td>
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<td>Highly Asymmetric C-C Bond Formation</td>
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<tr>
<td>10.00</td>
<td>Coffee Break</td>
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</tbody>
</table>
THURSDAY, 29 JUNE

10.30 Lecture  
Jean-Pierre Sauvage  
From Chemical Topology to Molecular Machines  
Stadttheater

11.00 Lecture  
Peter Agre  
Aquaporin Water Channels: From Atomic Structure to Malaria  
Stadttheater

11.30 Lecture  
Dan Shechtman  
The Science and Beauty of Crystals  
Stadttheater

12.00 Coffee Break  
Stadttheater

12.30 Lecture  
Thomas A. Steitz  
How Protein Factors Facilitate Protein Synthesis by the Ribosome  
Stadttheater

13.00 Lecture  
Ada E. Yonath  
Next Generation Environmental Friendly Antibiotics  
Stadttheater

13.00 Poster Session  
The poster session gives a selected number of young scientists the opportunity to show their posters in the primary school gym (Turnhalle) next to the meeting venue. Attendance is open to all from 13.00 to 16.30 hrs.  
Turnhalle

13.30 Lunch Break  
Access: young scientists, Nobel Laureates  
Catering Tent

15.00 Panel Discussion  
Science Careers  
Stadttheater

15.00 Science Careers  
Thomas L. Gianetti  
Department of Chemistry and Applied Bioscience, ETH Zurich, Switzerland

15.00 Science Careers  
May Shana'a  
Head of Research & Development, Beiersdorf AG, Germany

15.00 Science Careers  
Dan Shechtman  
Department of Materials Science and Engineering, Technion - Israel Institute of Technology, Israel

15.00 Science Careers  
Wiltrud Treffenfeldt  
Chief Technology Officer Europe, Middle East, Africa & India, Dow Europe GmbH, Switzerland

15.00 Science Careers  
Sir John E. Walker  
Emeritus Director, Medical Research Council, Mitochondrial Biology Unit, United Kingdom

15.00 Science Careers  
Moderator: Alaina G. Levine  
President, Quantum Success Solutions United States of America

15.00 Panel Discussion  
Stadttheater

16.30 Break  
Stadttheater

17.00 Discussion  
Peter Agre  
Discussion with Young Scientists  
Landratsamt

17.00 Discussion  
Ei-ichi Negishi  
Discussion with Young Scientists  
Hotel Bayer. Hof

17.00 Discussion  
Jean-Pierre Sauvage  
Discussion with Young Scientists  
Hotel Bayer. Hof

17.00 Discussion  
Richard R. Schrock  
Discussion with Young Scientists  
Altes Rathaus

17.00 Discussion  
Dan Shechtman  
Discussion with Young Scientists  
Altes Rathaus
THURSDAY, 29 JUNE

17.00  Thomas A. Steitz
Discussion
Hotel Bayer. Hof
Discussion with Young Scientists

17.00  Ada E. Yonath
Discussion
Forum am See
Discussion with Young Scientists

18.30  Break

19.00  Bayer Evening
Social Function
Stadttheater
hosted by the Elite Network of Bavaria and the Free State of Bavaria
Welcome
Countess Bettina Bernadotte
President of the Council for the Lindau Nobel Laureate Meetings
Words of Welcome
Ludwig Spaenle
Bavarian State Minister of Education, Science and the Arts, Germany

Bavaria – Land of Science and Research

Hartmut Michel
Max Planck Institute of Biophysics, Germany

Current Research Projects within the Elite Network of Bavaria

Jennie Pottbäcker, Rebecca Grünbauer

Bavarian Parade with Traditional Music

Bavarian Dinner
hosted by the Elite Network of Bavaria and the Free State of Bavaria
Access: Nobel Laureates, young scientists
Access for guests with online pre-registration only

20.00  Social Function
Catering Tent

FRIDAY, 30 JUNE

07.15  MS Sonnenkönigin
Baden-Württemberg Boat Trip to Mainau Island
hosted by the State of Baden-Württemberg
Access: Nobel Laureates, young scientists
Access for guests and journalists with online pre-registration only
Note: For all participants departing on Friday and not returning to their hotel: No luggage may be taken on the boat. Two luggage lorries will be available; please place your luggage accordingly.
Lorry 1: to “Mainau Island”: for those not returning to Lindau. Pick-up is at main entrance on Mainau Island until 17.30 hrs.
Lorry 2: to “Lindau”: for those leaving directly after their return to Lindau. Pick-up is at Lindau harbour immediately after arrival.
Certificates of Attendance will be available during the return boat trip.

07.15  Lindau Harbour
Check-In (Lindau)

07.45  Lindau Harbour
Departure (Lindau)

08.00  Bad Schachen
Arrival (Hotel Bad Schachen)

08.15  Bad Schachen
Departure (Hotel Bad Schachen)

10.20  Mainau Island
Arrival (Mainau Island)

11.00  Mainau Island
Castle Meadow
Welcome on Mainau Island
Countess Bettina Bernadotte and Count Björn Bernadotte

11.10  Induction of a New Member to the Honorary Senate of the Foundation Lindau Nobel Laureate Meetings

Klaus Kleinfeld
Former Chairman & CEO, Siemens AG, Germany and Alcoa Inc. / Arconic Inc., United States
FRIDAY, 30 JUNE

11.20  
Closing Panel Discussion  
Mainau Island  
Castle Meadow

<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>11.20</td>
<td>Ethics in Science</td>
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<tr>
<td></td>
<td>Jeffrey D. Kovac, Department of Chemistry, University of Tennessee, United States</td>
</tr>
<tr>
<td></td>
<td>Michael Lerch, Faculty of Mathematics and Natural Sciences, University of Groningen, Netherlands</td>
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<td></td>
<td>Karen Stroobants, Department of Chemistry, University of Cambridge, United Kingdom</td>
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<td>Ahmet Üzümcü, Director-General, Organisation for the Prohibition of Chemical Weapons, Netherlands</td>
</tr>
</tbody>
</table>
|       | **Moderator: Geoffrey Carr**  
|       | Science Editor, The Economist, United Kingdom                                              |
| 13.00 | Lunch Break  
|       | Mainau Island  
| 15.30 | Conclusion & Farewell                                                                      |
|       | Countess Bettina Bernadotte, President of the Council for the Lindau Nobel Laureate Meetings |
|       | Ulrich Steinbach, Deputy Minister, Ministry of Science, Research and the Arts, Government of the State of Baden-Württemberg, Germany |
| 16.30 | Departure (Mainau Island)  
|       | Baden-Württemberg Boat Trip to Lindau & Alumni Party  
|       | hosted by the State of Baden-Württemberg                                                  |
| 18.30 | Arrival (Hotel Bad Schachen)  
| 18.45 | Arrival (Lindau)                                                                           |

When the boat leaves the harbour of Mainau Island and sets course back to Lindau, you have just become member of a very special group: The Lindau Alumni Network.

More than 32,000 young scientists have attended the meetings since 1951, everyone with his very own experiences. For most of them, Lindau has been a once-in-a-lifetime event, changing or influencing the direction of his or her future career. Many have become highly successful scientists, and one has actually managed to win the Nobel Prize.

Join our network by registering to alumni.lindau-nobel.org.

Find your friends from this year, previous years, your hometown, your field of research – and stay in contact with them. Groups, message boards and shared documents are tools offered online. Selected Job offers only for Lindau Alumni may open a new door for your scientific career.

Plus, there are now more and more alumni meetings taking place world-wide. And if you would like to organise an alumni activity yourself, just tell us about it by writing to alumni@lindau-nobel.org.
The Meetings

The Lindau Nobel Laureate Meetings – established in 1951 – provide a globally recognised forum for exchange between Nobel Laureates and young scientists. They inspire scientific generations and build sustainable networks of young scientists around the world.

The original idea of the meetings goes back to the two Lindau physicians Dr. Franz Karl Hein and Professor Dr. Gustav Wilhelm Parade as well as Count Lennart Bernadotte af Wisborg, a member of the Swedish royal family who quickly became the spiritus rector of the Lindau Meetings. It was them who recognised very early the significance of the meetings for the reconciliation of the people of post-war Europe and thus systematically developed them to an international forum for the exchange of knowledge between nations, cultures and disciplines.

The Organisers

The Council for the Lindau Nobel Laureate Meetings and the Foundation Lindau Nobel Laureate Meetings organise the annual one-week events. The executive secretariat is responsible for planning and realisation.

Countess Bettina Bernadotte af Wisborg is president of the Council, which sets the course for the Lindau Meetings’ concept and programme. Internationally accredited scientists from the fields of medicine, physics, chemistry and the economic sciences are members of the Council. The work of the Council benefits from the commitment of the secretaries of the assemblies responsible for awarding the Nobel Prizes, which are represented in the Lindau Council.

The Foundation was established in the year 2000 by the Council and the Bernadotte family on the initiative of 50 Nobel Laureates. Prof. Dr. Jürgen Kluge serves as the chairman of the board of the Foundation. Joint initiatives regarding the advancement of the Lindau Meetings and the establishment of an international network of academic partners are key priorities in addition to ensuring sustainable funding.

The Lindau Meetings enjoy widespread support. More than 300 Nobel Laureates are members of the founders’ assembly of the Foundation and demonstrate – through their membership and their participation in the Lindau Dialogue – their support for the mission of the Lindau Nobel Laureate Meetings. Personalities from the worlds of science, politics and industry have been inaugurated into the Foundation’s honorary senate in recognition of the special commitment they have shown towards scientific excellence and the promotion of young scientists.

Funding of the Lindau Nobel Laureate Meetings

The Lindau Nobel Laureate Meetings are made possible thanks to the support received from supranational, national and state bodies, companies, associations and private patrons.

International companies, selected foundations, associations and private patrons assure the financial basis for the Lindau Meetings by making donations to the assets of the Foundation Lindau Nobel Laureate Meetings. Interest earned on the endowment, plus additional annual contributions by benefactors cover the budget of the Lindau Meetings. Donations in kind also play an important role in raising the professional level of the meetings. Not least the success of the Lindau Meetings can also be attributed to the commitment shown by the Nobel Laureates, members of the Council and the board of the Foundation during the preparation, realisation and evaluation of the meetings. A full list of supporters is enclosed in this programme.

The Academic Partners Network

The Lindau Nobel Laureate Meetings interact closely with a global network of academic partners to identify highly-talented young scientists and to nominate them for participation. Partners include national academies of science, ministries, research institutions, top-ranking universities, foundations and international scientific organisations. Without this support, the Lindau Nobel Laureate Meetings would not be able to identify and invite the most gifted scientific talents world-wide.

The world’s best young scientists of tomorrow submit applications to at-
ABOUT THE MEETINGS

Attend the Lindau Nobel Laureate Meetings. An international, multi-stage selection process guarantees that the scientific elite of the future is able to gather with the Nobel Laureates in Lindau. Every year, several thousand young scientists apply worldwide.

A full list of academic partners can be found in the Participant Directory.

Lanyard Color Key

<table>
<thead>
<tr>
<th>Color</th>
<th>Category</th>
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<tbody>
<tr>
<td>Turquoise</td>
<td>Nobel Laureates, their Partners and Family Members</td>
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<tr>
<td>Grey</td>
<td>Young Scientists</td>
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<td>Blue</td>
<td>Visiting Scientists</td>
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<td>Red</td>
<td>Guests</td>
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<td>Yellow</td>
<td>Journalists</td>
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<td>Lime Green</td>
<td>Host Families</td>
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<td>Purple</td>
<td>Lindau Citizens</td>
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<td>Contractors</td>
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<td>Brown</td>
<td>Contractors of Third Parties</td>
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<tr>
<td>Green</td>
<td>Council &amp; Foundation</td>
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<td>Black</td>
<td>Staff of the Executive Secretariat</td>
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</table>

ABOUT THE MEETINGS

Programme Session Types

Lecture
Lectures are given by Nobel Laureates only. They may choose a topic of their liking – be it their Nobel Prize research, be it something else. As the time is limited to thirty minutes, there is no discussion directly after the lecture.

Panel Discussion
In a panel discussion, several panelists jointly discuss one topic. This year, three discussions are offered: on Wednesday (“Current and Future Game Changers in Chemistry”), on Thursday (“Science Careers”) and on Friday (“Ethics in Sciences”).

Discussion Session
In the afternoon, all lectures held in the morning can be discussed in separate discussion sessions. These research-oriented discussions are strictly limited to laureates and young scientists, and switching between sessions should be avoided.

Master Class
This format offers a most intense exchange between young scientists and laureates, as selected young scientists present their research and then engage in an in-depth discussion with a Laureate. Attendance is on a first come, first served basis.

Poster Flashes and Poster Session
30 young scientists will present their posters in a short, 2-minute presentation. All posters can be viewed and discussed on Tuesday and Wednesday from 13.00 to 19.00 hrs and on Thursday from 13.00 to 16.30 hrs in the primary school gym (Turnhalle).

Breakfasts
Breakfasts are additional options for a more informal exchange. They are organised by Lindau’s partners, featuring talks, discussions and a joint breakfast with a Nobel Laureate. Attendance requires online pre-registration.
Exhibitions
Various exhibitions can be visited during the 67th Lindau Nobel Laureate Meeting. You will get free admission upon presentation of your name badge.

The Lindau Meetings: NOW AND THEN
This exhibition showcases the development the Lindau Nobel Laureate Meetings have taken during their long history and highlights where they stand today. It is on display at the city museum of Lindau ("Stadtmuseum", Marktplatz 6, 88131 Lindau), open daily from 10.00 hrs to 18.00 hrs.

Pictoral Worlds of Paul Klee
On the basis of selected works from Paul Klee’s different creative periods, the exhibition conveys key aspects of the works of this universally educated artist. It shines the spotlight on Klee’s graphic art just as much as his virtuoso use of colour, the multifarious themes and forms of his imaginative artistic creations, frequently depicted with an ironic wink, and the characteristic, symbolic vocabulary of his pictorial worlds. The exhibition is on display at the city museum of Lindau ("Stadtmuseum", Marktplatz 6, 88131 Lindau), open daily from 10.00 hrs to 18.00 hrs.

Library of Former Imperial City Library
The library ("Ehemals Reichsstädtische Bibliothek") is a very special and unique part of the municipal archive. 15,000 books belong to the library. It is the biggest historical council and citizen library at the North Lake of Constance. Opening hours Monday to Friday from 14.00 hrs to 17.30 hrs.
The Lindau Nobel Laureate Meetings would like to thank all maecenates, patrons and donors for their contributions to the endowment of the Foundation.

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### BUS LINES & TIME TABLE

**Special Operating Hours during the Lindau Meeting**

On Tuesday night, 27 June and Thursday night, 29 June the last buses to Alwind (bus line 4) leave at 23.40 hrs from the central connection point (ZUP) and serve all stops along their lines. All other bus lines run as listed in the time tables opposite.

### How to Read the Time Table

The time table on the opposite page shows operating hours and departure times for all four lines and both directions. The first three columns (earliest, Saturday, Sunday) indicate when the earliest bus runs from each stop, while the last columns show the last service. The two middle columns (every hour at) show when buses depart between the first and last service. Example: 24/54 means that this bus departs from the station every hour at minute 24 and 54 (e.g. at 15:24 hrs and 15:54 hrs).

<table>
<thead>
<tr>
<th>Bus Line #1 from Oberhochsteg via ZUP to Main Station (Island)</th>
<th>Bus Line #1 from Main Station (Island) via ZUP to Oberhochsteg</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Niederstraße</strong></td>
<td>5.27</td>
</tr>
<tr>
<td><strong>Wassertorstraße</strong></td>
<td>5.28</td>
</tr>
<tr>
<td><strong>Lügach</strong></td>
<td>5.29</td>
</tr>
<tr>
<td><strong>Schönaichstraße</strong></td>
<td>5.30</td>
</tr>
<tr>
<td><strong>Josefskirche</strong></td>
<td>5.31</td>
</tr>
<tr>
<td><strong>Bus Line #2 from Untermühlau via ZUP to Main Station (Island)</strong></td>
<td>5.50</td>
</tr>
<tr>
<td><strong>Hoyren</strong></td>
<td>5.27</td>
</tr>
<tr>
<td><strong>Hoyren Nord</strong></td>
<td>5.28</td>
</tr>
<tr>
<td><strong>Hoyren Nord Nord</strong></td>
<td>5.29</td>
</tr>
<tr>
<td><strong>Hoyren Nord Ost</strong></td>
<td>5.30</td>
</tr>
<tr>
<td><strong>Hoyren Nord West</strong></td>
<td>5.31</td>
</tr>
</tbody>
</table>

**Listed in the time tables opposite.**

On Tuesday night, 27 June and Thursday night, 29 June the last buses to Alwind (bus line 4) leave at 23.40 hrs from the central connection point (ZUP) and serve all stops along their lines. All other bus lines run as listed in the time tables opposite.

Additional nighttime schedules can be found on the following pages.

### How to Read the Time Table

The time table on the opposite page shows operating hours and departure times for all four lines and both directions. The first three columns (earliest, Saturday, Sunday) indicate when the earliest bus runs from each stop, while the last columns show the last service. The two middle columns (every hour at) show when buses depart between the first and last service. Example: 24/54 means that this bus departs from the station every hour at minute 24 and 54 (e.g. at 15:24 hrs and 15:54 hrs).

**Bus Line #4 from Rehling/Weissenberg via ZUP to Alwind (line 4) leave at 23.40 hrs from the central connection point (ZUP) and serve all stops along their lines. All other bus lines run as listed in the time tables opposite.**

**Listed in the time tables opposite.**

Special Operating Hours during the Lindau Meeting

On Tuesday night, 27 June and Thursday night, 29 June the last buses to Alwind (bus line 4) leave at 23.40 hrs from the central connection point (ZUP) and serve all stops along their lines. All other bus lines run as listed in the time tables opposite.

Additional nighttime schedules can be found on the following pages.

**How to Read the Time Table**

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### Night Bus Lines & Time Table
**Friday and Saturday**

<table>
<thead>
<tr>
<th>Bus Line</th>
<th>From</th>
<th>Main Station (Island)</th>
<th>To</th>
<th>ZUPerl to ZUPerl</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>Oberhochsteg</td>
<td>22.54</td>
<td>23.34</td>
<td>00.20</td>
</tr>
<tr>
<td></td>
<td>Kickenbach</td>
<td>22.51</td>
<td>23.25</td>
<td>00.20</td>
</tr>
<tr>
<td>#2</td>
<td>Untermünster</td>
<td>22.54</td>
<td>23.34</td>
<td>00.20</td>
</tr>
<tr>
<td>#3</td>
<td>Oberhochsteg</td>
<td>22.53</td>
<td>23.34</td>
<td>00.20</td>
</tr>
<tr>
<td></td>
<td>Kickenbach</td>
<td>22.51</td>
<td>23.25</td>
<td>00.20</td>
</tr>
<tr>
<td>#4</td>
<td>Untermünster</td>
<td>22.54</td>
<td>23.34</td>
<td>00.20</td>
</tr>
</tbody>
</table>

### Special Operating Hours during the Lindau Meeting

On Tuesday night, 27 June and Thursday night, 29 June the last buses to Alwind (bus line 4) leave at 23:40 hrs from the central connection point (ZUP) and serve all stops along their lines. All other bus lines run as listed in the time tables.

### How to Read the Time Table

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---

- **Bus Line #1** from Oberhochsteg via ZUPerl to Main Station (Island)
- **Bus Line #2** from Untermünster via ZUPerl to Main Station (Island)
- **Bus Line #3** from Oberhochsteg via ZUPerl to Grenzstadt/Zech
- **Bus Line #4** from Oberhochsteg to Grenzstadt/Zech

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- **Bus Line #1** from Oberhochsteg via ZUPerl to Main Station (Island)
- **Bus Line #2** from Untermünster via ZUPerl to Main Station (Island)
- **Bus Line #3** from Oberhochsteg via ZUPerl to Grenzstadt/Zech
- **Bus Line #4** from Oberhochsteg via ZUPerl to Untermünster
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Opening Hours Registration Desk Young Scientists

Saturday, 24 June  15.00 – 18.00
Sunday, 25 June  10.00 – 20.00
Monday, 26 June  08.30 – 18.00
Tuesday, 27 June  08.30 – 17.00
Wednesday, 28 June  08.30 – 14.30
Thursday, 29 June  08.30 – 20.00

Opening Hours Registration Desk Guests

Sunday, 25 June  10.00 – 18.30
Monday, 26 June  08.30 – 13.30 14.30 – 18.00
Tuesday, 27 June  08.30 – 13.30 14.30 – 17.00
Wednesday, 28 June  08.30 – 13.30 14.30 – 20.00
Thursday, 29 June  08.30 – 13.30 14.30 – 17.00 18.00 – 20.00

Opening Hours Registration Desk Press

Sunday, 25 June  10.00 – 18.30
Monday, 26 June  08.30 – 18.00
Tuesday, 27 June  08.30 – 18.00
Wednesday, 28 June  08.30 – 19.00
Thursday, 29 June  08.30 – 19.00

On site Contacts

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Fax +49 8382 91139 19
Press Desk  Tel +49 8382 91139 28
email  info@lindau-nobel.org
Emergency  112
Taxi  +49 8382 5050  or  +49 8382 3550

GOOD TO KNOW

Scientific Chairpersons of the 67th Lindau Nobel Laureate Meeting

Astrid Gräslund  
Professor of Biophysics, Department of Biochemistry and Biophysics, Stockholm University (Sweden)

Wolfgang Lubitz  
Director, Max Planck Institute for Chemical Energy Conversion (Germany)

Future Meetings

6th Lindau Meeting on Economic Sciences  
22 – 26 August 2017

68th Lindau Nobel Laureate Meeting (Physiology or Medicine)  
24 June – 29 June 2018

69th Lindau Nobel Laureate Meeting (Physics)  
30 June – 5 July 2019

70th Lindau Nobel Laureate Meeting (Interdisciplinary)  
28 June – 3 July 2020

7th Lindau Meeting on Economic Sciences  
25 – 29 August 2020

71st Lindau Nobel Laureate Meeting (Chemistry)  
27 June – 2 July 2021

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