Science for Future Initiative

The German National Academy of Sciences and the Chinese Academy of Sciences (CAS) jointly launched the Science for Future Initiative in 2018 with the aim of highlighting the importance of basic research for society.

The inaugural conference took place in September 2019 under the title "All Starts with Basic Research" at the University of the Chinese Academy of Sciences (UCAS). The "Beijing Declaration on Basic Science" was signed by the two academy presidents during this conference. In this declaration, Leopoldina and CAS commit themselves to long-term scientific cooperation that transcends national and cultural borders and scientific disciplines, to the promotion of evidence-based dialogue in society and to fostering young researchers.

The second conference in the series "On the Path to Carbon Neutrality" will focus on the discussion of innovative approaches ranging from basic research to application, thus opening a discourse on strategies to achieve carbon neutrality.

German National Academy of Sciences Leopoldina

The Leopoldina was founded in 1652 as a classical scholarly society and now has 1,600 members from almost all branches of science. As German National Academy of Sciences, the Leopoldina has two major objectives: representing the German scientific community internationally, and providing policymakers and the public with science-based advice.

Chinese Academy of Sciences (CAS)

The Chinese Academy of Sciences is the linchpin of China's drive to explore and harness high technology and the natural sciences for the benefit of China and the world. Comprising a comprehensive research and development network, a merit-based learned society and a system of higher education, CAS brings together scientists and engineers from China and around the world to address both theoretical and applied problems using world-class scientific and management approaches.

Venue:

Science City Berlin Adlershof

Tuesday, 29 October 2024 Bunsen-Saal Volmer Strasse 2 | 12489 Berlin

Wednesday, 30 October 2024 Helmholtz-Zentrum Berlin für Materialien und Energie Albert-Einstein-Straße 15 | 12489 Berlin

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www.leopoldina.org/sff-2024







the Path to Carbon Neutrality

cience for Future Conference

German National Academy of Sciences Leopoldina Chinese Academy of Sciences (CAS)

October 2024

City Berlin Adlershof



On the Path to Carbon Neutrality

2nd Science for Future Conference

By the German National Academy of Sciences Leopoldina and the Chinese Academy of Sciences (CAS)

In alignment with the Paris Agreement, China and Germany have set themselves the goal of achieving carbon neutrality in the coming decades. The conference will present and discuss innovative approaches from basic research and application to achieve this. It also serves as a platform for internationally renowned experts from various disciplines, younger scientists and the public to exchange knowledge, ideas and experiences regarding possible options and strategies to achieve carbon neutrality in both countries.

Organizing Committee

German National Academy of Sciences Leopoldina

- Prof. Dr. Katharina Kohse-Höinghaus ML, Bielefeld University
- Prof. Dr. Harald Fuchs ML, University of Münster
- Prof. Dr. Rolf-Dieter Heuer ML. CERN
- Prof. Dr. Christoph M. Schmidt ML. RWI Leibniz Institute for Economic Research
- Prof. Dr. Ferdi Schüth ML. Max Planck Institute for Coal Research

Chinese Academy of Sciences (CAS)

- Prof. Dr. Tao Zhang, CAS Member, Dalian Institute of Chemical Physics, CAS
- Prof. Huiming Cheng, CAS Member, Shenzhen Institute of Advanced Technology, CAS
- Prof. Buxing Han, CAS Member, Institute of Chemistry, CAS
- Prof. Hang Su, Institute of Atmospheric Physics, CAS
- Prof. Yi Wang, Institutes of Science and Development, CAS
- **Prof. Shuhong Yu,** CAS Member, University of Science and Technology of China
- Prof. Dr. Suojiang Zhang, CAS Member, Institute of Process Engineering, CAS

ML = Member of the Leopoldina

Sessions & **Speakers**

Tuesday, 29 October 2024

12:00 – 13:00 | Registration and Light Lunch

13:00 – 13:20 | Opening Remarks

Prof. (ETHZ) Dr. Gerald HAUG ML President of the German National Academy of Sciences Leopoldina

Prof. Dr. Jianguo HOU President of the Chinese Academy of Sciences (CAS)

Welcome

Prof. Dr. Otmar D. WIESTLER ML President of the Helmholtz Association

Prof. Dr. Christian F. DOELLER Vice-President of the Max Planck Society

13:20 - 13:30 | Signing of the Berlin Declaration

13:30 – 15:00 | Keynote Speeches

Prof. Dr. Chunli BAI CAS Member, Institute of Chemistry, CAS

Prof. Dr. Benjamin LIST ML Max-Planck-Institut für Kohlenforschung

Moderation:

Prof. Dr. Tao ZHANG CAS Member, Dalian Institute of Chemical Physics, CAS

Prof. Dr. Ferdi SCHÜTH ML Max-Planck-Institut für Kohlenforschung

15:00 - 15:30 | Coffee Break

15:30 - 16:30 | Session Basic research – the core of innovation

Prof. Susan E. TRUMBORE Ph.D. ML Max Planck Institute for Biogeochemistry

Prof. Dr. Zhonglin WANG Foreign CAS Member, Beijing Institute of Nanoenergy and Nanosystems

Moderation:

Prof. Dr. Katharina KOHSE-HÖINGHAUS ML Bielefeld University

Prof. Dr. Buxing HAN CAS Member, Institute of Chemistry CAS

16:30 - 17:00 | Coffee Break

17:00 – 18:15 | Impulse Session The promise of carbon neutrality: Where do we stand with new and old technologies? What does it take to achieve carbon neutrality in China and Germany?

Prof. Dr. Boiie FU CAS Member, Research Center for Eco-Environmental Science, CAS

Prof. Dr. Veronika GRIMM University of Technology Nuremberg

Prof. Dr. Zhengtang GUO CAS Member, Institute of Geology and Geophysics, CAS

Prof. Dr. Ottmar EDENHOFER MI Potsdam Institute for Climate Change Impact (PIK)

Moderation:

Prof. Dr. Harald FUCHS ML University of Münster

Prof. Dr. Shuhong YU CAS Member, University of Science and Technology of China

18:15 - 18:30 | Closing Remarks

Prof. (ETHZ) Dr. Gerald HAUG ML President of the German National Academy of Sciences Leopoldina

ML = Member of the Leopoldina

Prof. Dr. Shuli NIU Institute of Geographic Sciences and Natural Resources Research, CAS

Wednesday, 30 October 2024

09:00 – 09:10 | Opening Remarks

Dr. Ruth NARMANN Head of the International Relations Department, German National Academy of Sciences Leopoldina DDG. Yan WU

Deputy Director-General of the Bureau of International Cooperation, CAS

09:10 - 09:40 | Keynote Speech

Prof. Dr. Klaus VON KLITZING ML Max Planck Institute for Solid State Research

Prof. Dr. Frauke WIESE Europa-Universität Flensburg

PD Dr. Saeed ARMIRLAYAER University of Münster

Dr. Isnaldi R. SOUZA FILHO Max Planck Institute for Sustainable Materials

Prof. Dr.-Ing. Federica FERRARO Technische Universität Braunschweig

Prof. Dr. Chenli LIU Shenzhen Institute of Advanced Technology, CAS

Prof. Dr. Xianfeng LI Dalian Institute of Chemical Physics, CAS

Prof. Dr. Jingbi YOU Institute of Semiconductors, CAS

Dr. Yaxiang LU Institute of Physics, CAS

09:40 – 11:10 | Research for the Future

Moderation: Prof. Dr. Peter H. SEEBERGER Max Planck Institute of Colloids and Interfaces

11:10 – 11:30 | Coffee Break

11:30 - 13:00 | Session Innovation, translation, application – promising new technologies

Prof. Dr. Haisheng CHEN Institute of Engineering Thermophysics

Prof. Dr. Hans-Martin HENNING Fraunhofer Institute for Solar Energy Systems ISE

Prof. Dr. Wei WEI Shanahai Advanced Research Institute. CAS

Prof. Dr. Martin WINTER University of Muenster

Moderation: Prof. Dr. Rolf-Dieter HEUER ML CERN

Prof. Dr. Huiming CHENG CAS Member. Shenzhen Institute of Advanced Technology, CAS

13:00 - 14:00 | Lunch

14:00 - 15:30 | Session Market conditions and policies – the necessity for global cooperation

Prof. Dr. Andreas LÖSCHEL Ruhr University Bochum

Prof. Dr. Weigiang CHEN Institute of Urban Environment. CAS

Prof. Dr. Karen PITTEL ifo - Center for Energy, Climate, and Resources

Prof. Dr. Pu WANG Institutes of Science and Development, CAS

Moderation: Prof. Dr. Christoph M. SCHMIDT ML RWI – Leibniz Institute for Economic Research

Prof. Dr. Hang SU Institute of Atmospheric Physics, CAS

15:30 - 15:45 | Wrap-up and Outlook

Prof. Dr. Tao ZHANG CAS Member, Dalian Institute of Chemical Physics

Prof. Dr. Katharina KOHSE-HÖINGHAUS ML University of Bielefeld