

International Summit on Human Gene Editing: A Global Discussion

Convened by:

Chinese Academy of Sciences
The Royal Society
U.S. National Academy of Sciences
U.S. National Academy of Medicine

National Academy of Sciences Building
2101 Constitution Avenue, N.W.
Washington, D.C. 20418

December 1-3, 2015

Agenda

Tuesday, 1 December 2015

7:00 am	Registration/Continental Breakfast
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8:00 am	Welcome and Introductions
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Summit Committee Chair David Baltimore, California Institute of Technology

8:05 am	Opening Remarks
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Congressman Bill Foster (D-11th District, Illinois)
John P. Holdren, White House Office of Science and Technology Policy

Representatives of the Convening Organizations:

Ralph J. Cicerone, U.S. National Academy of Sciences
Victor J. Dzau, U.S. National Academy of Medicine
Zhihong Xu, Chinese Academy of Sciences
John Skehel, The Royal Society

8:35 am	Context for Summit
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Summit Planning Committee Chair David Baltimore, California Institute of Technology

8:45 am	Context Through Three Lenses: Scientific, Historical, Legal
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Moderator: Ismail Serageldin, The Library of Alexandria
Speakers: Klaus Rajewsky, Max Delbrück Center for Molecular Medicine
Daniel J. Kevles, New York University
Alta Charo, University of Wisconsin, Madison

9:40 am	Scientific Background on Gene Editing Technologies
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Moderator: Jennifer A. Doudna, University of California, Berkeley
Speakers: Maria Jasin, Memorial Sloan Kettering Cancer Center
Emmanuelle Charpentier, Max Planck Institute of Infection Biology
Jin-Soo Kim, Seoul National University / Institute for Basic Science
Jonathan Weissman, University of California, San Francisco

Discussants: J. Keith Joung, Massachusetts General Hospital and Harvard Medical School
Bill Skarnes, Wellcome Trust Sanger Institute
Feng Zhang, Broad Institute of Harvard and MIT

11:05 am	Comments from the Floor
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11:30 am	Lunch
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1:00 pm	Applications of Gene Editing Technology: Human Germline Modification
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Moderator: Robin Lovell-Badge, The Francis Crick Institute
Speakers: Peter Braude, King's College London
Kyle Orwig, University of Pittsburgh
George Q. Daley, Boston Children's Hospital

Discussants: George Church, Harvard Medical School
Azim Surani, Wellcome Trust Cancer Research UK Gurdon Institute,
University of Cambridge

2:30 pm	Comments from the Floor
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3:00 pm	Break
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3:30 pm	Societal Implications of Emerging Technologies
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Moderator: Annelien L. Bredenoord, University Medical Center Utrecht
Speakers: John Harris, University of Manchester
Hille Haker, Loyola University Chicago
Marcy Darnovsky, Center for Genetics and Society
Sharon F. Terry, Genetic Alliance

4:30 pm	Comments from the Floor
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5:15 pm	Limits to Our Understanding
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Speaker: Eric Lander, Broad Institute of Harvard and MIT

5:45 – 7:00 pm	Breakout Sessions
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6:30	Reception
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8:00 pm	Adjourn
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Wednesday, 2 December 2015

7:15 am	Registration/Continental Breakfast
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8:15 am	Welcome
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Summit Planning Committee Chair David Baltimore, California Institute of Technology

8:30 am	Applications of Gene Editing Technology: Basic Research
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Moderator: Duanqing Pei, Guangzhou Institutes of Biomedicine and Health, Chinese Academy of Sciences

Speakers: Rudolf Jaenisch, Massachusetts Institute of Technology
Janet Rossant, The Hospital for Sick Children and the University of Toronto
Jinsong Li, Shanghai Institutes for Biological Sciences, Chinese Academy of Sciences

9:15 am	Comments from the Floor
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9:45 am	Break
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10:15 am	Applications of Gene Editing Technology: Somatic Cell Therapy
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Moderator: Adrian Thrasher, University College London
 Speakers: Fyodor Urnov, Sangamo BioSciences
 Matthew Porteus, Stanford University
 Weizhi Ji, Kunming Institute of Zoology, Chinese Academy of Sciences

Discussants: Chad Cowan, Harvard University
 Marco Weinberg, The Scripps Research Institute

11:30 am	Comments from the Floor
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12:00 pm	Lunch
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1:30 pm	Governance at the Institutional and National Level
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Moderator: Pilar N. Ossorio, University of Wisconsin, Madison, and Morgridge Institute for Research
 Speakers: Jonathan Kimmelman, McGill University
 Barbara J. Evans, University of Houston Law Center
 Zhihong Xu, Peking University
 Jennifer Merchant, Université Paris II

2:10 pm	Comments from the Floor
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2:30 pm	Break
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3:00 pm	Governance at the International Level
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Moderator: Indira Nath, All India Institute of Medical Sciences
 Speakers: Gary Marchant, Arizona State University
 Thomas Reiss, Fraunhofer Institute for Systems and Innovation Research
 Philip Campbell, *Nature*

3:30 pm	Comments from the Floor
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4:00 pm	Break
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4:30 pm	International Perspectives
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Moderator: Ernst-Ludwig Winnacker, Gene Center Munich, Ludwig-Maximilians University of Munich

Speakers: Fola Esan, Nigerian Academy of Sciences (Nigeria)
Bärbel Friedrich, Leopoldina — the German National Academy of Sciences (Germany)
Pierre Jouannet, Université Paris Descartes (France)
Ephrat Levy-Lahad, Shaare Zedek Medical Center and Hebrew University of Jerusalem (Israel)
Keymanthri Moodley, Stellenbosch University (South Africa)
Staffan Normark, Karolinska Institute (Sweden)
K. Vijay Raghavan, Department of Biotechnology, Government of India (India)

5:45 pm	Breakout Sessions
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7:00 pm	Adjourn
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Thursday, 3 December 2015

7:30 am	Registration/Continental Breakfast
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8:30 am	Welcome
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Summit Planning Committee Chair David Baltimore, California Institute of Technology

8:40 am	Interrogating Equity
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Moderator: Françoise Baylis, Dalhousie University
Speakers: Tetsuya Ishii, Hokkaido University
Catherine Bliss, University of California, San Francisco
Ruha Benjamin, Princeton University

9:30 am	Comments from the Floor
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10:15 am	Break
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10:45 am	Governance, Regulation, and Control
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Moderator: Hank Greely, Stanford University
Speakers: David Relman, Stanford University and VA Palo Alto Health Care System
Richard Gold, McGill University
Charis Thompson, University of California, Berkeley

11:30 am	Comments from the Floor
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12:00 pm	Lunch
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1:30 pm	Going Forward: Closing Thoughts
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Summit Committee Chair David Baltimore, California Institute of Technology

3:00 pm	Adjourn
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