

June 4th-5th 2026

Nobel Forum, Karolinska Institutet, Stockholm, Sweden



Advances in **Antibody
Diversification and Engineering:
Mechanisms, Technologies, and
Therapeutic Potential**

Organizers

Qiang Pan-Hammarström

Michela Di Virgilio

Mikael Karlsson

Scientific advisory board

Nina Papavasiliou

Javier Di Noia

Alberto Martin

Davide Robbiani



Nobelförsamlingen

The Nobel Assembly at Karolinska Institutet



**Karolinska
Institutet**

Day 1 June 4th, Thursday

- 8:20 **Registration**
- 8:45-8:50 **Welcome Remarks**
Qiang Pan-Hammarström (Karolinska Institutet, Sweden)
- 8:50-9:00 **Greetings from Kyoto (virtual)**
Tasuku Honjo (2018 Nobel laureate in Physiology or Medicine, Kyoto University, Japan)

1st Session: Mechanisms of Antibody Diversification

Chairs: Olle Kämpe (*Karolinska Institutet, Sweden*),
Patricia Gearhart (*National Institutes of Health, USA*)

- 9:00-9:30 **Keynote: The role of chromatin loop extrusion in antibody diversification**
Frederick Alt (Harvard Medical School, USA)
- 9:30-9:50 **Transcriptional pause, pause-release, and termination factors cooperate to mediate somatic hypermutation**
David Schatz (Yale University, USA)
- 9:50-10:10 **AID licensing by chromatin tethering**
Javier Di Noia (Institut de Recherches Cliniques de Montréal, Canada)
- 10:10-10:25 **Short talk: R-loop disruption triggers irreversible Topoisomerase 1-DNA cleavage complex formation during AID-dependent IgH gene diversification**
Maki Kobayashi (Kyoto University, Japan)
- 10:30-11:00 Coffee break

Chairs: Petter Höglund (*Karolinska Institutet, Sweden*),
Feilong Meng (*Chinese Academy of Sciences, China*)

- 11:00-11:20 **Brain control of adaptive immunity**
Hai Qi (Tsinghua University, China)
- 11:20-11:40 **Impact of inherited IG gene variation on human antibody repertoires**
Gunilla Karlsson Hedestam (Karolinska Institutet, Sweden)
- 11:40-12:00 **Adaptive DNA repair capacity for protective immunity**
Michela Di Virgilio (Max Delbrück Center, Germany)
- 12:00-12:20 **An unexpected journey with APOBEC2: from muscle physiology to the regulation of lymphocyte identity in both mouse models and human patients**
Nina Papavasiliou (German Cancer Research Center, Germany)
- 12:30-13:30 Lunch and poster time

2nd Session: Antibodies and Disease

Chairs: Rikard Holmdahl (*Uppsala University, Sweden*),
Nils Landegren (*Uppsala University, Sweden*)

- 13:30-13:50 [Inborn errors of antibody deficiency](#)
Kaan Boztug (University of Vienna, Austria)
- 13:50-14:10 [Autoreactive BCRs: link between autoimmunity and lymphoma](#)
Qiang Pan-Hammarström (Karolinska Institutet, Sweden)
- 14:10-14:30 [Are double-negative B cells always pathogenic? Implications for cancer](#)
Claudia Mauri (University College London, UK)
- 14:30-14:50 [Tumor-elicited autoantibodies: friend, foe, or bystander?](#)
Qiao Wang (Fudan University, China)
- 15:00-15:30 Coffee break

Chairs: Lennart Hammarström (*Karolinska Institutet, Sweden*),
Lill Mårtensson (*University of Gothenburg, Sweden*)

- 15:30-15:50 [Origin of autoantibodies against type I IFN](#)
Matthieu Mahévas (French National Institute of Health and Medical Research, France)
- 15:50-16:10 [From immune diversity to oncogenic mutagenesis](#)
Alberto Martin (University of Toronto, Canada)
- 16:10-16:25 [Short talk: Co-option of *de novo* retrotransposition events potentiated an immunoglobulin diversification mechanism](#)
Uttiya Basu (Columbia University, USA)
- 16:25-16:40 [Short talk: Two alternative pathways generate autoreactive antibodies with distinct reactivities in atherosclerosis](#)
Almudena R. Ramiro (Spanish National Center for Cardiovascular Research, Spain)
- 16:45-17:15 Active break

Nobel Lecture (virtual)

Chair: Luca Varani (*Institute for Research in Biomedicine, Switzerland*)

- 17:15-18:00 [Designing novel antibodies: computational strategies transforming therapeutics](#)
David Baker (2024 Nobel laureate for Chemistry, University of Washington, USA)
- 18:00-18:15 Q&A with David Baker
- 19:00 Speakers' dinner (departure at 18:30 from Nobel Forum)

Day 2 June 5th, Friday

3rd Session: Antibody Engineering and Therapy

Chairs: Michael Karlsson (*Karolinska Institutet, Sweden*),
Leng Siew Yeap (*Shanghai Jiao Tong University, China*)

- 9:00-9:20 [Innovations in antibody therapeutics: targeting Fc receptor pathways](#)
Jeffrey Ravetch (The Rockefeller University, USA)
- 9:20-9:40 [Identification of FcγRIIB as an IgG transporter in the mammary gland](#)
Yaofeng Zhao (China Agricultural University, China)
- 9:40-10:00 [Harnessing mucosal secretory IgA to forge the frontline immune barrier](#)
Ling Chen (Guangzhou Medical University, China)
- 10:00-10:20 [Mechanosensitive antibody–receptor interactions](#)
Taia Wang (Stanford University, USA)
- 10:20-10:45 Coffee break

Chairs: Klas Kärre (*Karolinska Institutet, Sweden*),
Jiazhi Hu (*Peking University, China*)

- 10:45-11:05 [Neural regulation of immunity and cancer](#)
Tak Mak (University of Toronto, Canada)
- 11:05-11:25 [Beyond nature: The next frontier in molecular innovation](#)
Patrick Bryant (Stockholm University, Sweden)
- 11:25-11:40 [Short talk: From insert-containing antibodies to precision diagnosis and next generation of vaccines](#)
Kathrin de la Rosa (Max Delbrück Center, Germany)
- 11:40-12:00 [Antibodies and autoantibodies during viral infection](#)
Davide Robbiani (Institute for Research in Biomedicine, Switzerland)
- 12:00-12:20 [Data and baselines in AI for antibody design](#)
Charlotte Deane (University of Oxford, UK)
- 12:20-12:30 [Closing remarks](#)
Michela Di Virgilio (Max Delbrück Center, Germany)
- 12:30-13:30 Lunch and departure