

Nobel Conference No. 54

Regenerative Medicine

Nobel Forum
Karolinska Institutet
April 14-16, 2010



Nobelförsamlingen

The Nobel Assembly at Karolinska Institutet



**Karolinska
Institutet**

200
1810–2010 *Years*

Nobel Conference No. 54 “Regenerative Medicine” Stockholm 2010

Time: April 14-16, 2010

Venue: Nobel Forum, Karolinska Institute
Stockholm, Sweden

Wednesday, April 14

09.00-09.10 Urban Lendahl – Welcome Address

Session 1: Derivation and Engineering of Stem Cells

Chairperson: Patrik Ernfors

09.10-09.50 John B. Gurdon – The history of nuclear reprogramming by eggs and oocytes: past, present and future

09.50-10.30 Martin Evans – ES cells

10.30-11.00 *Coffee break*

11.00-11.40 Rudolf Jaenisch – ES cells, iPS cells and the potential for personalized medicine

11.40-12.20 Douglas A. Melton – Stem cells to create a pancreas and recreate human diabetes

12.20-13.50 *Lunch*

Session 2: Understanding and Controlling Stem Cell Differentiation (I)

Chairperson: Thomas Perlmann

13.50-14.30 Janet Rossant – Stem cells and the early embryo

14.30-15.10 Shin-ichi Nishikawa – Development of hematopoietic stem cell explained

15.10-15.40 *Coffee break*

15.40-16.20 Jürgen Knoblich – Asymmetric cell division and proliferation control in Drosophila neural stem cell lineages

16.20-17.00 Fred H. Gage – Function and regulation of adult neurogenesis in the dentrate gyrus

17.00-17.40 Olle Lindvall – Replacing dopamine neurons by stem cells for the treatment of Parkinson’s Disease

Thursday, April 15

Session 3: Understanding and Controlling Stem Cell Differentiation (II)

Chairperson: C.I. Edvard Smith

09.00-09.40 Kenneth Chien – Human ES cell derived islet heart progenitors: Towards stem cell models and therapeutics for human heart disease
09.40-10.20 Kenneth D. Poss – Mechanisms guiding heart regeneration in zebrafish
10.20-11.00 Kenneth S. Zaret – Specifying embryonic progenitors for liver and pancreas

11.00-11.30 *Coffee break*

11.30-12.10 Elaine Fuchs – Skin stem cells: activation and lineage specification
12.10-12.50 Irving Weissman – Normal and neoplastic stem cell

12.50-14.20 *Lunch*

Session 4: Technologies

Chairperson: Ola Hermanson

14.20-15.00 David T. Scadden – Visualizing the stem cell niche
15.00-15.40 Robert Langer – Biomaterials and controlled release systems

15.40-16.10 *Coffee break*

16.10-16.50 Jeffrey A. Hubbell – Biomaterial and biomolecule design for modulating morphogenetic and immune responses *in situ*
16.50-17.30 Jonas Frisé – Analysis of cell turnover in humans by retrospective birth dating

Friday, April 16

Session 5: Stem Cells and Cancer

Chairperson: Sten Eirik Jacobsen

09.00-09.40 John E. Dick – Stem cell biology meets cancer research
09.40-10.20 Peter Dirks – Tumor stem cells in the CNS

10.20-10.50 *Coffee break*

Session 6: Cell Therapies for Repair and Replacement

10.50-11.30 Michele de Luca – Human epithelial stem cells and regenerative medicine
11.30-12.10 James Shapiro – Clinical islet transplantation – Future directions and the way ahead

12.10-13.40 *Lunch*

Session 6: Cell Therapies for Repair and Replacement (continued)

Chairperson: Katarina Le Blanc

13.40-14.20 Christine L. Mummery – Cardiovascular derivatives of human pluripotent stem cells in development and disease

14.20-15.00 Amy Jo Wagers – Reversing age-induced dysfunction of tissue stem cells

15.00-15.30 *Coffee break*

15.30-16.10 Guilio Cossu – A phase I trial for Duchenne muscular dystrophy by allo-transplantation of mesoangioblasts

16.10-16.50 Shinya Yamanaka – Induction of pluripotency by defined factors

Concluding remarks