

**Epigenomics of Common Diseases Conference**  
**Wellcome Trust Conference Centre, Hinxton, Cambridge UK**  
**7-10 November 2013**

**Programme**

---

**Thursday, 7 November**

- 13:00 – 14:30      **Registration with buffet lunch**
- 14.30 – 14.40      **Welcome and Introductions**
- 14.40 – 15:40      **Keynote Lecture**  
*Chair: Stephan Beck*
- New Technologies for Sequencing, Interpreting and Altering Epigenomes  
*George Church*  
*Harvard University, USA*
- 15.40 – 16.40      **Session 1: Epigenomics of Common Disease I**  
*Chair: Andy Feinberg*
- 15.40    DNA methylation analysis for finding novel clues to autoimmune disease  
*Tomas Ekstrom*  
*Karolinska Institutet, Sweden*
- 16.10    The Role of Epigenetics in Genetic and Environmental Epidemiology  
*M. Daniele Falin*  
*Johns Hopkins University, USA*
- 16.40 – 17.15      **Afternoon Tea**
- 17.15 – 18.30      **Epigenomics of Common Disease I continued**
- 17.15    Widespread resetting of DNA methylation in glioblastoma initiating cells suppresses malignant cellular behaviour in a lineage dependent manner  
*Stefan Stricker*  
*University College London, UK*
- 17.30    Genome-wide mapping of 5-hydroxymethylcytosine in glioblastomas  
*Cheryl Li*  
*University of Sydney, Australia*
- 17.45    Meta-analysis of IDH-mutant cancers identifies EBF1 as an interaction partner for TET2  
*Paul Guilhamon*  
*University College London, UK*
- 18.00    Multiplexed high throughput sequencing of epigenetic signatures to quantify immunotherapy-induced cellular changes  
*Daniel Rainbow, University of Cambridge, UK*
- 18.15    Open discussion on session

18:30 **Poster session 1 with drinks reception** (posters - odd numbers)

19.45 **Dinner**

## **Friday, 8 November**

09.00 – 10.00 **Session 2: Epigenomics of Model Organisms, Model systems & Development**

*Chair: Anne Ferguson-Smith*

09:00 Transgenerational epigenetic inheritance and RNAe

*Eric Miska*

*University of Cambridge, UK*

09.30 Reconstitution of the NSL complex interaction network

*Nhuong Nguyen*

*Max Planck Institute of Immunobiology and Epigenetics, Germany*

09.45 Parent-of-origin effects implicate epigenetic regulation of experimental autoimmune encephalomyelitis and point to imprinted Dlk1 as a novel risk gene

*Sabrina Ruhrmann*

*Karolinska Institute, UK*

10.00 - 10:40 **Morning Coffee**

10.40 – 12.00 **Epigenomics of Model Organisms, Model systems & Development continued**

10:40 Epigenetic regulation of neural stem cell differentiation

*Yi Eve Sun*

*UCLA, USA*

11.10 Genome-scale analysis of DNA methylation dynamics during human fetal development implicates key genes in tissue-specific functions

*Roderick Slieker*

*Leiden University Medical Center, Netherlands*

11.25 Epigenome profiling of primary human subcutaneous and visceral adipocytes reveals potential differences in regulation of developmental and metabolism genes

*Peter Molloy*

*CSIRO Animal, Food & Health Sciences, Australia*

11.40 Open discussion on session

12:00 - 13:30 **Lunch**

13.30 – 15.45 **Session 3: Epigenomics of Disease II**

*Chair: Susan Clark*

13.30 Genotype-epigenotype variation and monoallelic expression

*Anne Ferguson-Smith*

*University of Cambridge, UK*

- 14.00 Understanding the CpG island signal  
*Rob Klose*  
*Oxford University, UK*
- 14:30 The Epigenetic Stability of Pluripotent and Somatic Cell States  
*Jacob Hanna*  
*Weizmann Institute of Science, Israel*
- 15:00 Epigenetic modifiers in germline development and inherited disease  
*Jessica Stringer*  
*Monash Institute of Medical Research, Australia*
- 15:15 An Integrated epigenomic-transcriptomic-genetic analysis of schizophrenia brain identifies novel molecular pathways to disease  
*Ruth Pidsley*  
*King's College London, UK*
- 15.30 Open discussion
- 15.45 - 16.15 **Afternoon Tea**
- 16.15 – 18.15 **Session 4: Quantitative epigenomics and computational analysis**  
*Chair: Tim Spector*
- 16.15 Epigenomic variation across cell types, individuals, and disease.  
*Manolis Kellis*  
*MIT, USA*
- 16.45 Temporal changes in the 3D architecture of enhancer interactions with different chromatin states  
*Eileen Furlong*  
*EMBL, Germany*
- 17:15 Large-scale epigenomic disruption driving plasticity in development and cancer  
*Andrew Feinberg*  
*Johns Hopkins University, USA*
- 17.30 Ewaser: epigenome-wide association studies without the need for cell-type composition  
*James Zou*  
*The Broad Institute and Harvard University*
- 17.45 The role of DNA sequence signals in the epigenetic reprogramming of CpG islands during oogenesis and early embryogenesis  
*Hebba Saadeh*  
*King's College London, UK*
- 18.00 Open discussion
- 18.15 – 19.30 **Drinks reception and Poster session II (even numbers)**
- 19.30 **Dinner**

**Saturday 9, November 2013**

09.00 – 10.30

**Session 5: Epigenomics in populations**

*Chair: Caroline Relton*

- 09:00 Life Study - creating opportunities to understand the role of epigenetics across the life course  
*Carol Dezateux*  
*University College London, UK*
- 09.30 Prenatal exposure to maternal smoking and offspring DNA methylation in the avon longitudinal study of parents and children (ALSPAC)  
*Rebecca Richmond*  
*University of Bristol, UK*
- 09.45 Postnatal stability, tissue and timing specific effects, of AHRR methylation change in response to maternal smoking throughout pregnancy  
*Richard Saffery*  
*University of Melbourne, Australia*

10.00 – 10.40

**Morning Coffee**

10.40 – 12.00

**Session 5: Epigenomics in populations continued**

- 10.40 Epigenetic, genetic and environmental epidemiology: convergences and divergences  
*George Davey Smith*  
*University of Bristol, UK*
- 11.10 Identification of perinatal epigenetic markers of later adiposity  
*Keith Godfrey,*  
*University of Southampton, UK*
- 11.25 DNA methylation changes in Sjögren's Syndrome evoke the possibility for a common signature of DNA methylation changes in autoimmune diseases  
*Jörg Tost*  
*CEA - Genome Institute, France*
- 11.40 Open discussion

12:00 - 13:30

**Lunch**

13.30 – 15.45

**Session 6: Ecology, Evolution and Function**

*Chair: Richard Saffery*

- 13.30 Large Scale Gene Regulation During Development and Diseases  
*Denis Duboule*  
*University of Geneva, Switzerland*
- 14.00 Understanding mechanisms of response to novel and changing environments  
*Christina Richards*  
*University of South Florida*

- 14.30 Epigenetics, environment, and evolution  
*Catherine Suter*  
*University of Melbourne, Australia*
- 14.45 A novel bromodomain protein of plasmodium falciparum is required for erythrocyte invasion  
*Michael Duffy*  
*The University of Melbourne, Australia*
- 15.00 Serotonin Transporter Methylation and Response to Cognitive Behaviour Therapy in Child Anxiety Disorders  
*Susanna Roberts*  
*King's College London, UK*

15.15 Open discussion

15:30 - 16.15

**Afternoon Tea**

16.15 – 18.30

**Session 7: New technology**

*Chair: George Church*

- 16.15 Chemical biology of the (epi)genome  
*Shankar Balasubramanian*  
*University of Cambridge, UK*
- 16.45 Epigenomic Regulation of Cell Lineage Memory  
*Gary Owens*  
*University of Virginia, USA*
- 17.15 Transposition of native chromatin for multimedial regulatory analysis and personal epigenomics  
*William Greenleaf*  
*Stanford University, USA*
- 17.30 High-resolution 3D imaging of epigenetic regulation in situ  
*Carolyn Larabell*  
*University of California, San Francisco, USA*
- 17.45 Late breaking news talk: Common disease-linked SNPs that act in trans to generate cellular senescence-like DNA methylomic profiles in vivo  
*Vardhman Rakyan*  
*Queen Mary University of London, UK*

18.00 Open discussion

19.00

**Coaches depart for conference dinner at Duxford Air Museum**

19.20

**Drinks reception**

20.00

**Conference dinner**

22.30

**Coaches return**

**Sunday, 10 November 2013**

09:00 – 10:00

**Keynote Lecture**

*Chair: Anne Ferguson-Smith*

Gene silencing by macro lncRNA transcriptional interference

*Denise Barlow*

*University of Vienna, Austria*

10.00 – 11.00

**Session 8: The dynamic nucleus**

*Chair: Peter Fraser*

10:00 Replication timing variance in pediatric leukemia

*David Gilbert*

*The Florida State University, USA*

10:30 The dynamics of epigenetic state in pluripotent and differentiated cells

*Zohar Mukamel*

*Weizmann Institute of Science, Israel*

10.45 MECP2 is required for chromatin higher-order structure and dynamics at the imprinted 15Q11-Q13 locus

*Shin-ichi Horike*

*Kanazawa University, Japan*

11:00 - 11:30

**Morning Coffee**

11.30 – 12.45

**Session 8: The dynamic nucleus continued**

11:30 The gene regulatory interactome and links to disease

*Peter Fraser*

*Babraham Institute, UK*

12:00 Characterisation of breast cancer gene deserts using modified Hi-C.

*Olivia Fletcher*

*Institute of Cancer Research, UK*

12:15 Aging is associated with highly defined epigenetic changes in the human epidermis

*Günter Raddatz*

*German Cancer Research Center, Germany*

12.30 Open discussion

12.45 – 13.00

**Conference summary/poster prizes/closing remarks**

13.00 – 14.00

**Lunch**

14.00

**Coaches depart for Cambridge Station & City Centre, Stansted Airport and Heathrow Airport**