Programme

October 7th 2014

08.45 – 09.15 Registration

Session 1: Chromosome structure and transcription
Chair: Lorenz Poellinger, Karolinska Institutet

09.15 – 09.30 **Welcome and Introduction**
Jussi Taipale/Lorenz Poellinger, Karolinska Institutet

09.30 – 09.55 **Roger D. Kornberg**, Stanford University
"Chromatin and Transcription"

09.55 – 10.20 **Jerry L. Workman**, Stowers Institute for Medical Research
"reSETting chromatin to prevent antisense production."

10.20 – 10.50 Coffee

10.50 – 11.15 **Jason D. Lieb**, University of Chicago
"Altered interactions between lamin A/C and enhancers are associated with transcriptional abnormalities in Hutchison-Gilford progeria"

11.15 – 11.40 **Job Dekker**, University of Massachusetts Medical School
"Two ways to fold the genome: implications for long–range gene regulation"

11.40 – 12.05 **Bing Ren**, University of California, San Diego
"Long-range Control of Transcription by Enhancers"

12.05 – 13.15 Lunch break

Session 2: Biochemistry and Structural Biology of Transcription
Chair: Jussi Taipale, Karolinska Institutet

13.15 – 13.40 **Robert Tjian**, University of California, Berkeley
"*Probing Transcription Mechanisms by Single Cell Biochemistry"*

13.40 – 14.05 **Patrick Cramer**, Ludwig Maximilians University of Munich
"Molecular and cellular mechanisms of genome transcription"

14.05 – 14.30 **Johan Elf**, Uppsala University
"Single molecule investigations of transcription factor kinetics in living cells"

14.30 – 15.00 Coffee

Session 3: Gene expression and regulatory genomics

Chair: Johan Elf, Uppsala University

15.00 – 15.25 **Michael Levine**, University of California, Berkeley
"Mechanisms of Transcriptional Precision in the Drosophila Embryo"

15.25 – 15.50 **Denis Duboule**, Fed. Inst. Technology, Lausanne; University of Geneva
"Mechanisms of Collinear Gene Transcription in Vertebrates"

15.50 – 16.15 **Alexander Stark**, Research Institute of Molecular Pathology, Vienna
"Decoding transcriptional regulation in Drosophila"

16.15 – 16.40 **Martha L. Bulyk**, Harvard Medical School
"Disease-associated mutations and coding variation in human transcription factors"

16.40 – 17.05 **Jussi Taipale**, Karolinska Institutet
"Genome-wide analysis of protein-DNA interactions"

17.05 – 19.00 Networking event with cheese and wine for speakers and delegates

October 8th 2014

09.00 – 9.15 Registration

Session 4: Mechanisms of gene expression
Chair: Jorge Ruas, Karolinska Institutet

09.15 – 09.40 **Robert G. Roeder**, Rockefeller University
"Eukaryotic transcription mechanisms: from nuclear RNA polymerases to general initiation factors, gene-specific activators, coactivators and chromatin"

09.40 – 10.05 **Sunney Xie**, Harvard University
"Molecule Enzymology: Mechanism of the Stochastic Bursts in Transcription"

10.05 – 10.30 **Rickard Sandberg**, Karolinska Institutet
"Single-cell RNA-seq reveals principles of allelic expression in mammalian cells"

10.30 – 11.00 Coffee

11.00 – 11.25 **Sten Linnarsson**, Karolinska Institutet
"Single-cell transcriptomics: Towards a molecular classification of cell types in the mouse somatosensory cortex"

11.25 – 11.50 **John Stamatoyannopoulos**, University of Washington
"The human regulatory genome: Who controls whom, and how?"

11.50 – 12.15 **Eran Segal**, Weizmann Institute
"Unraveling principles of gene regulation using thousands of designed regulatory sequences"

12.15 – 13.15 Lunch break

Session 5: Molecular biology of transcription
Chair: Sten Linnarsson, Karolinska Institutet

13.15 – 13.40 **Mark Ptashne**, Memorial Sloan-Kettering Cancer Center
"Establishment and Maintenance of gene expression in bacteria and in yeast"

13.40 – 14.05 **Frank Pugh**, Penn State University
"Chromatin Organization Mechanisms across the yeast genome"

14.05 – 14.30 **Masayuki Yamamoto**, Tohoku University
"Molecular Basis of the Keap1-Nrf2 System Regulating Environmental Stress Response"

14.30 – 14.55 **Lorenz Poellinger**, Karolinska Institutet; National University of Singapore
"*Mechanisms of transcriptional regulation in hypoxia"*

14.55 – 15.25 Coffee

Session 6: Systems Biology of transcription
Chair: Rickard Sandberg, Karolinska Institutet

15.25 – 15.50	John T. Lis, Cornell University *"Analysis of nascent start sites identifies a unified model of transcription initiation at promoters and enhancers"*
15.50 – 16.15	Richard S. Mann, Columbia University *"Enhancer specificities and regulatory robustness emerge from clusters of low affinity binding sites"*
16.15 – 16.40	Francois Spitz, EMBL *"Managing long-distance (regulatory) relationships in development and disease"*
16.40 – 17.05	Timothy R. Hughes, University of Toronto *"C2H2 zinc finger proteins greatly expand the human regulatory lexicon"*
17.05 – 17.30	Duncan Odom, Cancer Research UK, Cambridge *"Evolution of transcriptional regulation in mammals"*

Speakers dinner at Restaurang Rökeriet, Stora Fjäderholmen
http://www.rokeriet-fjaderholmarna.se/

Transport will depart from Nobel Forum at 18.00

October 9th 2014

09.00 – 09.15 Registration

Session 7: Transcription in human disease
Chair: Lorenz Poellinger, Karolinska Institutet

09.15 – 09.40 **Richard A. Young**, Whitehead Institute; MIT
"Control of Gene Expression Programs"

09.40 – 10.05 **Jorge Ruas**, Karolinska Institutet
"Transcriptional regulation of skeletal muscle adaptation to exercise: Impact on psychiatric disease"

10.05 – 10.30 **Emmanouil (Manolis) Dermitzakis**, University of Geneva
"Regulatory variation and its contribution to complex traits and disease"

10.30 – 11.00 Coffee

Session 8: Regulation and evolution
Chair: Jussi Taipale, Karolinska Institutet

11.00 – 11.25 **Daniel G. Tenen**, Harvard Medical School; National University of Singapore
"Regulation of Myeloid Transcription Factors and DNA Methylation by Noncoding RNAs"

11.25 – 11.50 **Marian Walhout**, University of Massachusetts Medical School
"Human Transcription Factor Network Rewiring in Evolution and Disease"

11.50 – 12.15 **Danny Reinberg**, New York University School of Medicine
"Activating and repressing transcription to maintain cellular identity"

12.15 – 12.30 **closing words**