Single Cell Genomics

Tue 01/10/2013

08:45-09:00: Welcome address-

08:45	09:00		

09:00-12:10: Single cell transcriptomics-

09:00	09:10	Opening Remarks	
09:10	09:55	Towards the mechanism of germ cell specification and programming by single cell analysis	Azim Surani, Cambridge
09:55	10:20	Quantitative analysis of single-cell transcriptomes	Sten Linnarsson, KI
10:20	10:35	Lecture	Alex Shalek, Harvard
10:35	11:05	Coffee Break	
11:05	11:30	Towards mapping gene activities to 3D cortex anatomy	Kun Zhang, UCSD
11:30	11:45	Lecture	Peter Kharchenko, Harvard
11:45	12:10	Modelling Early Development with Human Embryonic Stem Cells	Paul Robson, GIS

12:10-13:40: Lunch break-

12:10	13:40		

13:40-16:05: Single cell epigenomics -

13:40	14:05	3D structure of chromosomes and genome organization revealed by single cell Hi-C	Peter Fraser, Barbraham
14:05	14:20	Lecture	Oren Ram, Broad
14:20	14:45	Single Molecule Epigenomic Analysis	Paul Soloway, Cornell
14:45	15:10	Instructing the epigenome in stem and differentiated cells	Dirk Schubeler, FMI
15:10	15:35	Promiscuous and dynamic behavior of enhancers within regulatory and topological domains	Francoiz Spitz, EMBL
15:35	16:05	Coffee break	

16:05-18:15: Understanding tumors as populations of single cells-

16:05	16:30	Trade-offs and the geometry of gene expression in space	Uri Alon, WIS
16:30	16:45	Lecture	Dana Pe'er, Columbia
16:45	17:10	Selective transcriptional control by oncogenic Myc underlies transcriptional amplification during B-cell lymphomagenesis	Bruno Amati, IEO/IIT
17:10	17:35	Integrated single-cell analysis technologies will revolutionize whole-organism science	Ehud Shapiro, WIS
17:35	17:50	Lecture	Tomer Kalisky, Bar-Ilan University
17:50	18:15	Lecture	Jussi Taipale, KI

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18:15-19:45: Dinner to all participants-

18:15 19:45

Wed 02/10/2013

09:00-11:10: Single germ and stem cells: Impact on heritability and development -

09:00	09:30	The Role of DNA modifications in epigenetic reprogramming and signalling	Wolf Reik, Barbraham
09:30	09:45	Lecture	Akira Watanabe, Kyoto University
09:45	10:15	Epigenetic Regulation of Pluripotency Induction and Maintenance	Jacob Hanna, WIS
10:15	10:45	Maintenance of epigentic memory in pluripotent and somatic cells	Amos Tanay, WIS
10:40	11:10	Coffee break	

11:10-13:00: Single cell expression: Implications to gene regulation and noise-

11:10	11:35	MicroRNA-mediated control of gene expression noise	Alexander van Oudernaarden, Utrecht
11:35	12:00	Expression variability in nutrient homeostasis	Naama Barkai, WIS
12:00	12:25	Cell to cell variability in transcriptional induction	Nir Friedman , HUJI
12:25	12:50	Gene expression genomics in T helper cells	Sarah Teichmann, EMBL-EBI and Sanger Institute

13:00-16:00: Lunch and poster session-

13:00 16:00

15:30-16:00: Industry session-

15:30	15:45	Discover a New Approach to Single-Cell Genomics with the C1^{TM} Single-Cell Auto Prep System	Mark Lynch , Fluidigm
15:45	16:00	Deep sequencing enables new applications: from single cell research to diagnostics	Florian Graedler, Illumina

16:00-16:20: Social-

16:00	16:20	Making a positive community out of single cells and individuals	Uri Alon, WIS

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16:20-18:40: Uncovering principles of the Immune system using single cell applications-

16:20	16:45	Spatiotemporal and Computational Considerations in Analyzing and Modeling Single Cells	Ron Germain, NIH
16:45	17:10	Ab initio characterization of the immune system using massively parallel single cell RNA-Seq	Ido Amit, WIS
17:10	17:35	Stochastic dynamics of immune cell activation and differentiation	Nir Friedman , WIS
17:35	17:50	Lecture	Assaf Rotem, Harvard
17:50	18:15	The macrophage epigenome and the control of inflammatory gene expression	Gioacchino Natoli, IEO
18:15	18:40	Tracking single cell fate in hematopoiesis	Shalin Naik , WEHI

18:40-21:00: Free evening (Speakers dinner)-

18:40 21:00

Thu 03/10/2013

09:00-11:20: Novel technology enabling the single cell revolution-

09:00	09:35	Single Cell Genomics	Steve Quake, Stanford
09:35	10:10	Single-cell studies with drop-based microfluidics	David Weitz, Harvard
10:10	10:25	Lecture	Soohong Kim, Broad
10:25	10:50	Single Cell Functional Proteomics as a Conduit Between Biology and the Physicochemical Laws	James Heath , Caltech
10:50	11:20	Coffee break	

11:20-13:15: Understanding development one cell at a time-

11:20	11:45	Clonal and transcriptional dynamics of tissue stem cells	Shalev Itzkovitz, WIS
11:45	12:10	Examining single cell expression variability using thousands of designed regulatory sequences	Eran Segal, WIS
12:10	12:35	Dissecting the embryo with single cell RNA-Seq	Itai Yanai, Technion
12:35	12:50	Lecture	Long Cai, Caltech
12:50	13:15	Sensitive and full-length transcriptome profiling in individual cells	Rickard Sandberg, KI

13:15-14:45: Lunch break-

13:15 14:45