PROGRAM

MONDAY, October 8—7:00 PM

Welcome Remarks

Bin Ren
University of California, San Diego

Maoyen Chi
Cold Spring Harbor-Asia

SESSION 1  COMPUTATIONAL BIOLOGY

Chairperson: Bing Ren, University of California-San Diego,
La Jolla, California, USA

ENCODE Phase III—Building an encyclopedia of candidate cis-regulatory elements for human and mouse
Zhiping Weng  [20'+10']
Presenter affiliation: UMass Medical School, Worcester, Massachusetts.

Genetic basis of alternative polyadenylation (3’QTL) is an emerging molecular phenotype for human traits and diseases
Wei Li  [20'+10']
Presenter affiliation: Baylor College of Medicine, Houston, Texas.

Allelic binding of human transcription factors
Jian Yan, Yunjiang Qiu, André M Ribeiro dos Santos, Jussi Taipale, Bing Ren  [10'+5]
Presenter affiliation: Ludwig Institute for Cancer Research, La Jolla, California; Northwest University, Xi’an, China; Karolinska Institutet, Solna, Sweden.

Endogenous retroviruses HERV-H delineate chromatin domains in human embryonic stem cells
Yanxiao Zhang, Sebastian Preissl, Ting Li, Hongbo Yang, Jonathan Grinstein, Eugin Destici, Ah-Young Lee, Sora Chee, Yunjiang Qiu, Kaiyue Ma, Zhen Ye, Neil Tedeschi, Samantha Kuan, Jennifer Veevers, Sylvia M. Evans, Neil C. Chi, Bing Ren  [10'+5]
Presenter affiliation: Ludwig Institute for Cancer Research, San Diego, California.
SESSION 2 GENOMICS

Chairperson: Len Pennacchio, Lawrence Berkeley National Laboratory, Berkeley, California, USA

Genome-wide analysis of enhancers in the human and mouse genomes
Bing Ren [20'+10']
Presenter affiliation: Ludwig Institute for Cancer Research, La Jolla, California; University of California, San Diego School of Medicine, La Jolla, California.

The dark matter in genomics
Ting Wang [20'+10']
Presenter affiliation: Washington University, St. Louis, Missouri.

Single-cell transcriptomics—New techniques and application to lung and colorectal cancer
Shyam Prabhakar [20'+10']
Presenter affiliation: Genome Institute of Singapore, Singapore.

Coffee / Tea Break

Timothy Reddy [20'+10']
Presenter affiliation: Duke University, Durham, North Carolina.

Multi-scale 3D genome analyses in human neurogenesis and brain tissues with easy Hi-C
Leina Lu, Xiaoxiao Liu, Wei-Kai Huang, Shanshan Zhang, Paola Giusti, Zhexing Wen, Cynthia Bartels, Zheng Xu, Ming Hu, Yun Li, Peter Scacheri, Patrick F. Sullivan#, Hongjun Song, Guo-li Ming, Yan Li, Fulai Jin [10'+5']
Presenter affiliation: Case Western Reserve University, Cleveland, Ohio.
SESSION 3  POSTER SESSION

Tagmentation on microbeads—Restore long-range DNA sequence information using surface-immobilized transposomes
He Chen, Jiacheng Yao, Yusi Fu, Yuhong Pang, Jianbin Wang, Yanyi Huang
Presenter affiliation: Biodynamic Optical Imaging Center (BIOPIC), School of Life Sciences, Beijing, China.  

Dissecting the role of transposable elements (TEs) in the evolution of higher-order chromosomal structures in mammals
Mayank Choudhary, Ting Wang
Presenter affiliation: Washington University School of Medicine, St. Louis, Missouri.  

A visual workflow for detecting temporal gene regulatory cascades in the context of human cardiac development
Rayan Daou, Martin Haubrock, Edgar Wingender
Presenter affiliation: University of Göttingen, Medical School, Goettingen, Germany.  

Regulator inference from gene expression based on Large scale In-Silico Analysis of chromatin profile
Jingyu Fan, Qian Qin, Clifford A. Meyer, X. Shirley Liu
Presenter affiliation: Tongji University, Shanghai, China.  

A cross-organism framework for supervised enhancer prediction with epigenetic pattern recognition and targeted validation
Presenter affiliation: Yale University, New Haven, Connecticut.  

Modular regulation of gene expression by genome position and cis-regulatory sequences
Clarice Hong, Jeff Hansen, Hemangi Chaudhari, Brett Maricque, Barak Cohen
Presenter affiliation: Washington University in St Louis, St Louis, Missouri.  

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Cell type-specific transcriptome state transition in zebrafish fin regeneration
Yiran Hou, Ting Wang
Presenter affiliation: Washington University in St Louis, St Louis, Missouri.

Widespread transposable element-driven oncogene expression in cancers
Hyo Sik Jang, Nakul M. Shah, Ting Wang
Presenter affiliation: Washington University School of Medicine, Saint Louis, Missouri.

Data-driven inference of gene regulators in a biological process
Peng Jiang, Mathew Freedman, Jun Liu, Xiaole Liu
Presenter affiliation: Dana Farber Cancer Institute, Boston, Massachusetts; Harvard T.H.Chan School of Public Health, Boston, Massachusetts.

The impact of computational modeling on precision medicine
Jian Li, Ulrich Mansmann
Presenter affiliation: German Cancer Research Center, Munich, Delaware.

Clonal evolution and the role of serial liquid biopsies in prostate cancer patients
Jing Li, Feng Zhu, Min Qu, Yan Wang, Xu Gao
Presenter affiliation: Changhai Hospital, Shanghai, China; Second Military Medical University, Shanghai, China.

Imaging-based genome-wide phenomic screens reveal a stress granule formation pathway in yeast Saccharomyces cerevisiae
Beidong Liu
Presenter affiliation: University of Gothenburg, Gothenburg, Sweden.

From protein-protein interaction correlation network to multiple frequency signaling—The principle of a molecular filter bank in E.coli
Si-Wei Luo, Zhi Liang, Jia-Rui Wu
Presenter affiliation: University of Science & Technology of China, Hefei, China.

Numerous non-RNA-editing SNVs in allopolyploid offspring of the goldfish × common carp cross
Wanting Qin, Jing Chai, Guoliang Lin, Yaping Zhang, Jing Luo
Presenter affiliation: Yunnan University, Kunming, China.
Systematic analysis of transcription factor binding at non-coding variants in the human genome
Jian Yan, Yunjiang Qiu, André R. Santos, Yimeng Yin, Yang E. Li, Nick Vinckier, Naoki Nariai, Anugraha Raman, Joshua Chiou, Kelly A. Frazer, Kyle J. Gaulton, Maike Sander, Jussi Taipale, Bing Ren
Presenter affiliation: Ludwig Institute for Cancer Research, La Jolla, California; University of California San Diego, Bioinformatics and Systems Biology Graduate Program, California.

High throughput mutagenesis of ultraconserved enhancers in vivo
Valentina Snetkova, Quan T. Pham, Momoe Kato, Stella Tran, Ingrid Plajzer-Frick, Catherine S. Pickle, Anne N. Harrington, Jennifer A. Akiyama, Veena Afzal, Diane E. Dickel, Axel Visel, Len A. Pennacchio
Presenter affiliation: Lawrence Berkeley National Laboratory, Berkeley, California.

Cistrome Data Browse—Expanded datasets and new tools for regulatory cis-element analysis
Changxin Wan, Rongbin Zheng, Xiaole S. Liu
Presenter affiliation: Tongji University, Shanghai, China.

Drug adaptation influences cardiotoxicity caused by tyrosine kinase inhibitors in iPSC-derived human cardiomyocytes
Huan Wang, Robert P. Sheehan, Adam C. Palmer, Peter K. Sorger
Presenter affiliation: Harvard Medical School, Boston, Massachusetts; Peking University Health Science Center, Beijing, China.

Self-regulated reaction-diffusion pattern formation from synthetic gene networks
Xiao Wang
Presenter affiliation: Arizona State University, Tempe, Arizona; Shenzhen Institutes of Advanced Technology, Shenzhen, China.

Genome-wide CRISPR-Cas9 screen reveals selective vulnerability of ATRX-mutant cancers to WEE1 inhibition
Junbo Liang, Song Liu, Dingding Wang, Yuchen Jiao, Xiaoyue Wang
Presenter affiliation: Institute of Basic Medical Sciences, Chinese Academy of Medical Sciences, Beijing, China.

Base editing with a Cpf1–cytidine deaminase fusion
Xiaosa Li, Ying Wang, Yajing Liu, Bei Yang, Wei Xue, Xiao Wang, Jia Wei, Zongyang Lu, Yuxi Zhang, Jing Wu, Xingxu Huang, Li Yang, Jia Chen
Presenter affiliation: CAS-MPG Partner Institute for Computational Biology, Shanghai, China.
The role of long non-coding RNAs in DNA damage and repair
Yuming Wang, Zhenzhen Wu
Presenter affiliation: Zhongshan Ophthalmic Center, Guangzhou, China.

Genome-wide prediction of regulatory element in Arabidopsis genome using integrated epigenomic data sets
Yue Liu, Jiaotong Yang, Zhongqiu Li, Hengyu Yan, Lingling Da, Wenying Xu, Zhen Su
Presenter affiliation: China Agricultural University, Beijing, China.

Widespread enhancer dememorization and promoter priming during parental-to-zygotic transition
Bingjie Zhang, Xiaotong Wu, Wenhao Zhang, Weimin Shen, Kaili Liu, Yu Zhang, Qijun Wang, Yuanyuan Li, Anming Meng, Wei Xie
Presenter affiliation: THU-PKU Center for Life Sciences, School of Life Sciences, Tsinghua University, Beijing, China.

Clonal evolution and the role of serial liquid biopsies in low PSA and high-grade prostate cancer patients
Wenhui Zhang, Jing Li
Presenter affiliation: The Second Military Medical University, Shanghai, China.

A next generation sequencing parallel biopsy protocol
Wenhui Zhang, Jing Li
Presenter affiliation: The Second Military Medical University, Shanghai, China.

Integrative analysis of pooled CRISPR genetic screens using MAGeCKFlute
Binbin Wang, Mei Wang, Wubing Zhang, Wei Li, Xiaole Shirley Liu
Presenter affiliation: Shanghai Pulmonary Hospital, Shanghai, China; Tongji University, Shanghai, China.

Cell-to-cell variability reveals the dynamic control of transcription at different chromosome positions
Siqi Zhao, Hemangi G. Chaudhari, Brett B. Maricque, Marc S. Sherman, Barak A. Cohen
Presenter affiliation: Washington University School of Medicine, St. Louis, Missouri.
Transcriptome-wide survey of tomato (Solanum Lycopersicum) seeds in response to fast neutron irradiation followed by Tomato yellow leaf curl virus (TYLCV) infection
Yujie Zhou, Vivek Chavan, Hee-Seong Byun, Eui-Joon Kil, Sukchan Lee, Seung-Woo Hong
Presenter affiliation: Sungkyunkwan University, Suwon, South Korea.

Epigenetic regulation of centromere establishment in Caenorhabditis elegans and holocentric but not everywhere—Determine the localization of centromeric protein A on the genome by single cell DamID
Jing Zhu, Kevin Cheng, Karen Wing Yee Yuen
Presenter affiliation: The University of Hong Kong, Hong Kong SAR.

TUESDAY, October 9—4:30 PM
Chinese Tea and Beer Tasting

TUESDAY, October 9—7:00 PM

SESSION 4   RNAs

Chairperson: Feng Yue, Pennsylvania State University, Hershey, Pennsylvania, USA

Mitchell Guttman [20'+10']
Presenter affiliation: California Institute of Technology, Pasadena, California.

Unconventional RNA form and function
Ling-Ling Chen [20'+10']
Presenter affiliation: Shanghai Institute of Biochemistry and Cell Biology, CAS, Shanghai, China; CAS Center for Excellence in Molecular Cell Science, CAS, Shanghai, China.

A-to-I RNA editing as a mechanism of gene regulation in Drosophila and humans
Jian Lu [10'+5']
Presenter affiliation: Peking University, Beijing, China.
Global regulation mediated by intron retention in immune system
Zhouhao Zeng, Yi Tian, Yunjie Zhao, Robert Hawley, Nanping Weng, Jun Zhu, Weiqun Peng [10'+5']
Presenter affiliation: George Washington University, Washington, DC.

Elucidating the role of epigenetic and DNA sequences in centromere establishment and chromosome maintenance
Zhongyang Lin, Jing Zhu, Karen Wing Yee Yuen [10'+5']
Presenter affiliation: The University of Hong Kong, Hong Kong SAR, Hong Kong.

WEDNESDAY, October 10—9:00 AM

SESSION 5 EPIGENOMES

Chairperson: Zhiping Weng, UMass Medical School, Worcester, Massachusetts, USA

Editing the epigenome
Ryan Lister [20'+10']
Presenter affiliation: The University of Western Australia, Perth, Australia.

A generalized data-driven model for transcription factor gene regulation
Chen-hao Chen, Cliff Meyer, Rongbin Zheng, Changxin Wan, Myles Brown, X Shirley Liu [20'+10']
Presenter affiliation: Harvard University, Dana-Farber Cancer Institute, Boston, Massachusetts.

Genomic analysis of chromosome position effects
Hemangi Chaudhari, Brett B. Maricque, Barak A. Cohen [20'+10']
Presenter affiliation: Washington University in St. Louis, St. Louis, Missouri.

Coffee / Tea Break

In vivo studies of human genome function
Len A. Pennacchio [20'+10']
Presenter affiliation: Lawrence Berkeley Laboratory, Berkeley, California.
Interplay between genome and epigenome of prostate cancer

Jing Li  [10'+5']

Presenter affiliation: The Second Military Medical University, Shanghai, China.

WEDNESDAY, October 10—1:30 PM

Visit to Old Suzhou

WEDNESDAY, October 10—Evening

Free Time

THURSDAY, October 11—9:00 AM

SESSION 6    GENE REGULATION I

Chairperson: Shyam Prabhakar, Genome Institute of Singapore, Singapore

Martha Bulyk  [20'+10']
Presenter affiliation: Brigham & Women’s Hospital, Harvard Medical School, Boston, Massachusetts.

Genome-wide analysis of protein-DNA interactions
Arttu Jolma, Jian Yan, Martin Enge, Kazuhiro R. Nitta, Teemu Kivioja, Minna Taipale, Ekaterina Morgunova, Gonghong Wei, Kimmo Palin, Dave Kashyap, Inderpreet Sur, Bernhard Schmierer, Jussi Taipale  [20'+10']
Presenter affiliation: University of Cambridge, Cambridge, United Kingdom; Karolinska Institutet, Stockholm, Sweden; University of Helsinki, Helsinki, Finland.

Systems biology of stem cells
Huck Hui Ng  [20'+10']
Presenter affiliation: Agency for Science, Technology and Research, Singapore, Singapore.
Impact of cytosine modifications on DNA binding specificities of human transcription factors
Presenter affiliation: Karolinska Institutet, Stockholm, Sweden.

Coffee / Tea Break

THURSDAY, October 11—11:00 AM

KEYNOTE SPEAKER

Introduction by: X. Shirley Liu, Harvard University, Cambridge, Massachusetts, USA

Xiaowei Zhuang
Howard Hughes Medical Institute
Harvard University

THURSDAY, October 11—2:00 PM

SESSION 7  EPIGENOMES AND CANCER

Chairperson: Martha Bulyk, Brigham & Women’s Hospital, Harvard Medical School, Boston, Massachusetts, USA

3D genome regulators modulate long-term self-renewal in hematopoietic stem cells
Mathieu Lupien [20’+10’]
Presenter affiliation: Princess Margaret Cancer Centre, Toronto, Canada.

Anti-cancer drug discovery by high throughput sequencing based high throughput screening
Dong Wang [20’+10’]
Presenter affiliation: Tsinghua University, Beijing, China.

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Germline GATA3 variants influence chromatin topology and pathogenesis of acute lymphoblastic leukemia
Hongbo Yang, Hui Zhang, Tingting Liu, Kathryn G. Roberts, Mao-xiang Qian, Bo Zhang, Wenjian Yang, Virginia Perez-Andreu, Yu Luan, Julie Gastier-Foster, Ching-Hon Pui, Stephen P. Hunger, Mary V. Relling, Charles G. Mullighan, Mignon L. Loh, Jun J. Yang, Feng Yue [20'+10']
Presenter affiliation: Penn State School of Medicine, Hershey, Pennsylvania; The Pennsylvania State University, University Park, Pennsylvania.

Coffee / Tea Break

Understanding cancer gene expression abnormality at the bulk and single-cell levels
Zemin Zhang [20'+10']
Presenter affiliation: Peking University, Beijing, China.

Charting the epigenomic landscape of transposable elements
Erica C. Pehrsson, Mayank Choudhary, Vasavi Sundaram, Ting Wang [10'+5']
Presenter affiliation: Washington University in St. Louis, St. Louis, Missouri.

THURSDAY, October 11—6:00 PM
COCKTAILS and BANQUET

FRIDAY, October 12—9:00 AM

SESSION 8 GENE REGULATION II

Chairperson: Huck Ng, Genome Institute of Singapore, Singapore

X. Sunney Xie [20'+10']
Presenter affiliation: Harvard University, Cambridge, Massachusetts.

Decoding the gene regulation network in human germline cells by single cell functional genomics approaches
Fuchou Tang [20'+10']
Presenter affiliation: ICG, BIOPIC, College of Life Sciences, Beijing, China.
Conservation and divergence of chromatin reprogramming in early animal development
Wei Xie  [20'+10']
Presenter affiliation: Tsinghua University, Beijing, China.  57

Coffee / Tea Break

Characterization of regulatory network modulating expression sensitive erythroid genes
Qian Qi, Li Cheng, Peng Xu, Robert Throm, Mitch Weiss, Yong Cheng  [10'+5']
Presenter affiliation: St. Jude Children's Research Hospital, Memphis, Tennessee.  58

SIRT6 deficiency results in developmental retardation in cynomolgus monkeys
Guanghui Liu  [10'+5']
Presenter affiliation: Institute of Biophysics, Chinese Academy of Sciences, Beijing, China.  59

Systematic identification of silencers in the human genome
Baoxu Pang, Michael Snyder  [10'+5']
Presenter affiliation: Leiden University Medical Center, Leiden, Netherlands; Stanford University, Stanford, California.  60

Closing Remarks

Huck Ng
Genome Institute of Singapore

Maoyen Chen
Cold Spring Harbor-Asia