Abstracts of papers presented
at the 2024 Cold Spring Harbor Asia Conference

CHROMATIN, EPIGENETICS & TRANSCRIPTION

May 13–May 17, 2024

Arranged by

Genevieve Almouzni, *Curie Institute*
Hiroyuki Sasaki, *Kyushu University*
Yang Shi, *Ludwig Cancer Research, University of Oxford*
Bing Zhu, *Institute of Biophysics, CAS*

Cold Spring Harbor Conferences Asia
Cold Spring Harbor Laboratory

CHROMATIN, EPIGENETICS & TRANSCRIPTION
Monday, May 13 – Friday, May 17, 2024

Monday	7:00 pm	**1** Opening / Keynote Session
Tuesday	9:00 am	**2** Chromatin Assembly and Dynamics
Tuesday	2:00 pm	**Poster Session**
Tuesday	3:00 pm	*Chinese Tea and Beer Tasting*
Tuesday	7:00 pm	**3** Epigenetics Inheritance
Wednesday	9:00 am	**4** Chromatin Modifications and Dynamics I
Wednesday	2:00 pm	*Visit to Old Suzhou**
Wednesday	7:00 pm	**5** Chromatin Modifications and Dynamics II
Thursday	9:00 am	**6** Chromatin Structure, Remodeling and Organization
Thursday	2:00 pm	**7** Chromatin Function
Thursday	6:00 pm	Cocktails and Banquet
Friday	9:00 am	**8** Closing / Keynote Session

Oral presentation sessions are located in the Watson Auditorium
Poster session and Chinese Tea & Beer Tasting are in the Poster Hall (EII).
Cocktail social hour is held outside in the Suz Garden.
Old Suzhou visits depart from the hotel lobby
**optional tour requires additional fee.*

Meal locations and times are as follows:
Lunch: Suz Garden 12:00am - 1:30pm
Dinner: Suz Garden 6:00pm - 7:30pm
Banquet: Suz Garden 7:00pm

More information will be available at CSHA office.
(Map at the end of this abstract book)

PROGRAM

MONDAY, May 13—7:00 PM

SESSION 1 OPENING SESSION / KEYNOTE SPEAKER

Chairperson: **Yang Shi,** Ludwig Institute for Cancer Research, University of Oxford, Oxford, United Kingdom

KEYNOTE SPEAKER

Shelley L. Berger [35+10']
University of Pennsylvania, Philadelphia, USA

Epigenetic pathways as targets in human disease 1

Functions of protein phosphatases in transcriptional regulation
Fei Chen [10'+5']
Presenter affiliation: Fudan University, Shanghai, China. 2

Histones and beyond—Role of protein methylation signaling in epigenetic regulation and cancer biology
Or Gozani [20'+5']
Presenter affiliation: Stanford University, Stanford, California. 3

TUESDAY, May 14—9:00 AM

SESSION 2 CHROMATIN ASSEMBLY AND DYNAMICS

Chairperson: **Azusa Inoue,** RIKEN, Yokohama, Japan

Shaping chromatin and cell fate, a choreography involving histones and partners
Geneviève Almouzni [20'+5']
Presenter affiliation: Institut Curie, Paris, France. 4

HMGA2 directly mediates chromatin condensation in association with neuronal fate regulation
Yukiko Gotoh [20'+5']
Presenter affiliation: The University of Tokyo, Tokyo, Japan. 5

POSTER SESSION

Unveiling the role of m^{6}A modification in human pluripotent state transition
Xuehao Zhu, Zhanhe Chang, Xinbao Zhang, Yan Bi, Mingli Ma, Xiaochen Kou, Yanhong Zhao, You Wu, Xuelian Liu, Jiaxing Sun, Hong Wang, Yixuan Wang, Yawei Gao, Shaorong Gao
Presenter affiliation: School of Life Sciences and Technology, Shanghai, China; Frontier Science Center for Stem Cell Research, Shanghai, China. 94

CTCF depletion uncouples the role of enhancer-promoter interactions and higher-order chromatin hubs in the regulation of gene expression during cellular differentiation
Magdalena Karpinska, Yi Zhu, Marieke Oudelaar
Presenter affiliation: Max Planck Institute for Multidisciplinary Sciences, Göttingen, Germany. 95

TUESDAY, May 14—3:00 PM

Chinese Tea and Beer Tasting

TUESDAY, May 14—7:00 PM

SESSION 3 EPIGENETIC INHERITANCE

Chairperson: **Yu-Ying He,** University of Chicago, Illinois, USA

Epigenetic cell memory—How cells copy their epigenome and its consequence for cell plasticity
Anja Groth [20'+5']
Presenter affiliation: Center for Protein Research (CPR), Copenhagen, Denmark. 96

PRC1 counteracts MLL2–H3K4me3 to establish heritable H3K27me3 in mouse oocytes
Hailiang Mei, Chisayo Kozuka, Mami Kumon, Haruhiko Koseki, Azusa Inoue [10'+5']
Presenter affiliation: RIKEN, Yokohama, Japan. 97

SESSION 4 CHROMATIN MODIFICATIONS AND DYNAMICS I

Chairperson: **Fei Chen,** Fudan University, Shanghai, China

Defining ortholog-specific UHRF1 inhibition by STELLA for cancer therapy
Wenjing Bai, Jinxin Xu, Wenbin Gu, Danyang Wang, Ying Cui, Linping Wu, Jinsong Liu, Stephen B. Baylin, Xianggian Kong [10'+5']
Presenter affiliation: Guangzhou Institutes of Biomedicine and Health, Chinese Academy of Sciences, Guangzhou, China. 109

METTL8 links mt-tRNA m3C modification to the HIF-1α/RTK/Akt axis to sustain glioblastoma stemness and tumorigenicity
Bernice Woon Li Lee, You Heng Chuah, Jeehyun Yoon, Oleg V. Grinchuk, Yajing Liang, Jayshree L Hirpara, Yating Shen, Loo Chien Wang, Yan Ting Lim, Tianyun Zhao, Radoslaw M Sobota, Toshio Suda, Tan Boon Toh, Pervaiz Shazib, Zhewang Lin, Derrick Sek Tong Ong [10'+5']
Presenter affiliation: Yong Loo Lin School of Medicine, National University of Singapore, Singapore. 110

WEDNESDAY, May 15—2:00 PM

Visit to Old Suzhou

WEDNESDAY, May 15—7:00 PM

SESSION 5 CHROMATIN MODIFICATIONS AND DYNAMICS II

Chairperson: **Marcelo G. Bonini,** Northwestern University, Chicago, Illinois, USA

Diffuse midline gliomas—From cell cycle to therapeutic opportunities
Capucine Van Rechem [20'+5']
Presenter affiliation: Stanford University School of Medicine, Stanford, California. 111

H3.3 Ser31 phosphorylation facilitates H3K27me3-to-H3K9me3 heterochromatin consolidation in retrotransposon silencing and X chromosome inactivation
Guohong Li [20'+5']
Presenter affiliation: Wuhan University, New Cornerstone Science Laboratory, Wuhan, China; Institute of Biophysics, Chinese Academy of Sciences, Beijing, China; University of Chinese Academy of Sciences, Beijing, China. 112

THURSDAY, May 16—9:00 AM

SESSION 6 CHROMATIN STRUCTURE, REMODELING AND ORGANIZATION

Chairperson: **Rhys Allan,** WEHI, Parkville, Australia

SESSION 7 CHROMATIN FUNCTIONS

Chairperson: **Mo Chen,** Tsinghua University, Beijing, China

TWEAKing genome regulation in breast cancer to identify novel drivers of metastasis
Nicholas Sim, Jean-Michel Carter, Kamalakshi Deka, Benita Kiat Tee Tan, Yirong Sim, Suet-Mien Tan, Yinghui Li [10'+5']
Presenter affiliation: Nanyang Technological University (NTU), School of Biological Sciences (SBS), Singapore. 133

The crucial role of H2A.Z in cell fate decisions—Insights into promoter chromatin architecture regulation in normal and aberrant cellular processes
David J. Tremethick, Jane Benoit, Yasmin Dijkwel, Jonathan Dennis [10'+5']
Presenter affiliation: The Australian National University, Canberra, Australia. 134

THURSDAY, May 16—6:00 PM

COCKTAILS and BANQUET

FRIDAY, May 17—9:00 AM

SESSION 8 CLOSING SESSION / KEYNOTE SPEAKER

Chairperson: **Hiroyuki Sasaki,** Kyushu University, Fukuoka, Japan

KEYNOTE SPEAKER

Neil Brockdorff [35+10']
University of Oxford, Oxford, United Kingdom

Xist RNA function in X chromosome inactivation 135

The Fork Protection Complex collaborates with FACT to guide parental histone recycling
Qing Li [20'+5']
Presenter affiliation: Peking University, State Key Laboratory of Protein and Plant Gene Research, Beijing, China. 136

DNA cytosine methylation suppresses meiotic recombination at the sex-determining region
Tong Ge, Xiuqi Gui, Jia-xi Xu, Hui Chen, Zhen Shao, Guo-liang Xu [10'+5']
Presenter affiliation: Chinese Academy of Sciences, Shanghai, China. 137

Break

Binding domain mutations provide insight into CTCF's relationship with chromatin and its ability to act as a chromatin organizer
Catherine Do, Guimei Jiang, Christos Katsifis, Domenic N. Narducc, Jie Yang, Giulia Cova, Theodore Sakellaropoulos, Raphael Vidal, Priscillia Lhoumaud, Nata Kakabadze, Elphege Nora, Marcus Noyes, Xiaodong Chen, Anders S. Hansen, Jane A. Skok [20'+5']
Presenter affiliation: NYU Langone Health, New York, New York. 138

A computational tool to interpret polygenetic disease risks with single-cell epigenomic data
Gefei Zhao, Binbin Lai [10'+5']
Presenter affiliation: Peking University, BeiJing, China. 139