

PROGRAM

MONDAY, May 9—7:00 PM

**Welcome Remarks**

**SESSION 1**      OPENING SESSION / KEYNOTE SPEAKERS

**Chairperson:**    **Yang Shi**, Children's Hospital, Harvard Medical School,  
Boston, Massachusetts, USA

**Mechanistic studies of the cooperative functions of  
transcriptional co-activators on recombinant chromatin templates**

Robert G. Roeder [35']

Presenter affiliation: The Rockefeller University, New York, New York.      1

**Transgenerational inheritance of behavior in *Drosophila***

Julianna Bozler, Balint Z. Kacsóh, Giovanni Bosco [10']

Presenter affiliation: Geisel School of Medicine at Dartmouth College,  
Hanover, New Hampshire.      2

**Epigenetics—One genome, multiple phenotypes**

Danny Reinberg [35']

Presenter affiliation: HHMI at NYU School of Medicine, New York, New  
York.      3

TUESDAY, May 10—9:00 AM

**SESSION 2**      CHROMATIN ASSEMBLY AND DYNAMICS

**Chairperson:**    **Genevieve Almouzni**, Institut Curie, Paris, France

**Shaping chromatin in the nucleus, the bricks and the architects**

Genevieve Almouzni [20']

Presenter affiliation: Institut Curie, Paris, France.      4

**Replication protein A interacts with histone H3-H4 and couples DNA replication with nucleosome assembly**

Shaofeng Liu, Zhiyun Xu, He Leng, Pu Zheng, Jiayi Yang, Jingyang Wang, Jianxun Feng, Kaifu Chen, Qing Li [10']

Presenter affiliation: State Key Laboratory of Protein and Plant Gene Research and Peking-Tsinghua Center for Life Sciences, Beijing, China.

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**Transcriptional regulators compete with nucleosomes post-replication**

Srinivas Ramachandran, Steven Henikoff [20']

Presenter affiliation: Howard Hughes Medical Institute and Fred Hutchinson Cancer Research Center, Seattle, Washington.

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**Differential expression of the genes encoding histone H3.3 reveals a novel epigenetic pathway related to cancer**

Jakub Mieczkowski, Sihem Cheloufi, Aimee Deaton, Konrad Hochedlinger, Michael Tolstorukov [10']

Presenter affiliation: Massachusetts General Hospital, Boston, Massachusetts.

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**Coffee Break**

**The PBAF chromatin remodelling complex and maintenance of genome stability**

Cornelia Meisenberg, Peter M. Brownlee, Penny A. Jeggo, Jessica A. Downs [20']

Presenter affiliation: University of Sussex, Falmer, United Kingdom.

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**The NuA4/TIP60 complex regulates bivalent chromatin recognition by 53BP1 through direct H4K20me binding and H2AK15 acetylation**

Karine Jacquet, Amelie Fradet-Turcotte, Nikita Avvakumov, Jean-Philippe Lambert, Celine Roques, Raj K. Pandita, Eric Paquet, Pauline Herst, Anne-Claude Gingras, Tej K. Pandita, Gaëlle Legube, Yannick Doyon, Daniel Durocher, Jacques Côté [10']

Presenter affiliation: Laval University, Quebec City, Canada.

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**Structure and dynamics of the 30-nm chromatin fiber in gene regulation**

Guohong Li [20']

Presenter affiliation: Institute of Biophysics, Chinese Academy of Sciences, Beijing, China.

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**Suppression of enhancer overactivation by a RACK7-histone demethylase complex**

Hongjie Shen, Wenqi Xu, Rui Guo, Bowen Rong, Lei Gu, Zhentian Wang, Chenxi He, Yujiang G. Shi, Yang Shi, [Fei Lan](#) [10]

Presenter affiliation: Fudan University, Shanghai, China.

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TUESDAY, May 10—2:00 PM

**SESSION 3      POSTER SESSION I**

**Cancer-associated histone mutations affect the structure and stability of the nucleosome**

[Yasuhiro Arimura](#), Mamiko Noda, Risa Fujita, Masae Ikura, Masaaki Sugiyama, Hiroshi Kimura, Tsuyoshi Ikura, Hitoshi Kurumizaka

Presenter affiliation: Waseda University, Tokyo, Japan.

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**The NIH Common Fund "4D Nucleome" Program**

[Olivier C. Blondel](#)

Presenter affiliation: National Institutes of Health (NIH), Bethesda, Maryland.

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**Pontin functions as an essential coactivator for Oct4-dependent LincRNA expression in mouse embryonic stem cells**

[Kyungjin Boo](#), Joomyung Kim, Sung Hee Baek

Presenter affiliation: Creative Research Initiative Center for Chromatin Dynamics, Seoul, Korea.

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**Epigenetic reprogramming of the plant paternal genome**

[Michael Borg](#), Frederic Berger

Presenter affiliation: Gregor Mendel Institute, Vienna, Austria.

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**Developmentally regulated chromatin loops in the *Drosophila* Hox gene complexes**

Zhibo Ma, Mo Li, Matthew Romine, [Haini N. Cai](#)

Presenter affiliation: University of Georgia, Athens, Georgia.

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**Tet proteins cooperate with lineage specific transcription factors in regulating chromatin accessibility**

[Xing Chang](#), Jiayuan Zhang, Jerry Lio, Anjana Rao

Presenter affiliation: Shanghai Institute for Biological Sciences, Shanghai, China.

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<b>PAF1, a molecular regulator of promoter-proximal pausing by RNA polymerase II</b>	
<u>Fei Chen</u> , Ashley R. Woodfin, Edwin R. Smith, Alessandro Gardini, Ramin Shiekhataar, Ali Shilatifard	
Presenter affiliation: Northwestern University, Chicago, Illinois.	18
<b>Discovery of novel inhibitors of histone acetyltransferase MOF</b>	
Yushu Ge, Jiajia Wan, Wenxiu Duan, Qianqian Han, <u>Kai Chen</u> , Dan Liu	
Presenter affiliation: University of Sciences and Technology of China, Hefei, China.	19
<b>The dynamics and regulation of higher-order chromatin structures</b>	
<u>Ping Chen</u> , Wei Li, Liping Dong, Ming Li, Guohong Li	
Presenter affiliation: National Laboratory of Biomacromolecules, Institute of Biophysics, Beijing, China.	20
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Tewfik Hamidi, <u>Taiping Chen</u>	
Presenter affiliation: The University of Texas MD Anderson Cancer Center, Smithville, Texas.	21
<b>One new important discovery in DNA sequence</b>	
<u>Zhiyu Chen</u>	
Presenter affiliation: Peiyou Education School, Shanghai, China.	22
<b>Preliminary crystallization of fragile X mental retardation protein with a modified histone peptide</b>	
Zhenhang Chen, Pinchao Mei, <u>Zhongzhou Chen</u>	
Presenter affiliation: China Agricultural University, Beijing, China.	23
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Xian Xia, Xiaoyu Liu, <u>Zhucheng Chen</u>	
Presenter affiliation: Tsinghua University, Beijing, China.	24
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<u>Donghang Cheng</u> , Vidyasiri Vemulapalli, Yu Lu, Mark T Bedford	
Presenter affiliation: MD Anderson Cancer Center, Smithville, Texas.	25

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Xue Cheng, Olivier Jobin-Robitaille, Valerie Côté, Jacques Côté  
 Presenter affiliation: Laval University Cancer Research Center, Quebec City, Canada. 26
- Phosphorylation and partner switch regulate BRD4 gene-specific targeting and pathway selectivity**  
 Shwu-Yuan Wu, Hsien-Tsung Lai, Dawn Nin, Chien-Fei Lee, Cheng-Ming Chiang  
 Presenter affiliation: UT Southwestern Medical Center, Dallas, Texas. 27
- Mutation of OsNaPRT1 in the NAD salvage pathway leads to withered leaf tips in rice**  
 Liwen Wu, Deyong Ren, Shikai Hu, Gengmi Li, Guojun Dong, Xingming Hu, Yongtao Cui, Li Zhu, Jiang Hu, Guangheng Zhang, Zhenyu Gao, Dali Zeng, Qian Qian, Longbiao Guo.  
 Presenter affiliation: China National Rice Research Institute, Hangzhou, China. 28
- DNA demethylation by TET dioxygenases controls gastrula patterning by controlling Lefty-Nodal signaling**  
Hai-Qiang Dai, Bang-An Wang, Lu Yang, Jia-Jia Chen, Guo-Chun Zhu, Hao Ge, Rui Wang, Deborah L. Chapman, Fuchou Tang, Xin Sun, Guo-Liang Xu  
 Presenter affiliation: State Key Laboratory of Molecular Biology, CAS Center for Excellence in Molecular Cell Science, Chinese Academy of Sciences, Shanghai, China. 29
- Characterization of human testis specific H2B variants H2BFW175 and H2BFW153**  
Dongbo Ding, Yinan Zhang, Yu Hin Pang, Xulun Sun, Mengping Long, Yan Yan, Juan Ausio, Toyotaka Ishibashi  
 Presenter affiliation: The Hong Kong University of Science and Technology, Hong Kong. 30
- Regulation of ubiquitin-like with PHD and RING finger domain 1 (UHRF1) protein stability by heat shock protein 90 chaperone machinery**  
Guangjin Ding, Peilin Chen, Hui Zhang, Jia Li, Jiemin Wong  
 Presenter affiliation: East China Normal University, Shanghai, China. 31

- CREST-seq reveals active promoters regulating distal gene expression via long-range chromatin loops**  
 Yarui Diao, Rongxin Fang, Bin Li, Bing Ren  
 Presenter affiliation: University of California, San Diego, La Jolla, California; Ludwig Institute for Cancer Research, La Jolla, California. 32
- New insights into the recruitment mechanism of RNA polymerase V to chromatin in *Arabidopsis***  
Javier Gallego-Bartolome, Wanlu Liu, Hsuan Yu Kuo, Ajay A. Vashisht, James A. Wohlschlegel, Steven A. Jacobsen  
 Presenter affiliation: UCLA, Los Angeles, California. 33
- Direct induction of neural progenitor cells transiently passes through a partially reprogrammed state**  
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 Presenter affiliation: Tsinghua University, Beijing, China; National Institute of Biological Sciences, NIBS, Beijing, China. 34
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Lei Gong, Jonathan F. Wendel  
 Presenter affiliation: Northeast Normal University, Changchun, China; Iowa State University, Ames, Iowa. 35
- An iCRISPR-ON system for rapid upregulation endogenous genes in human pluripotent stem cells**  
Jianying Guo, Jie Na, Dacheng Ma, Zhen Xie, Jia Ming  
 Presenter affiliation: Center for Stem Cell Biology, Tsinghua University, Beijing, China. 36
- The non-CG methylation is cell-type specific and conserved between human and mouse**  
Weilong Guo, Michael Q. Zhang, Hong Wu  
 Presenter affiliation: The MOE Key Laboratory of Cell Proliferation and Differentiation, School of Life Sciences, Beijing, China. 37
- Transcription of mRNA determines the efficacy of its translation.**  
 Boris Slobodin, Ruiqi Han, Ran Elkou, Joachim Oude Vrielink, Reuven Agami  
 Presenter affiliation: The Netherlands Cancer Institute, Amsterdam, the Netherlands. 38

<b>Bioorthogonal labeling for HAT activity detection and HAT substrates profiling</b> <u>Zhen Han</u> , Yujun G. Zheng Presenter affiliation: The University of Georgia, Athens, Georgia.	39
<b>The role of RAG1 and Pax5 in regulating Immunoglobulin gene chromatin conformation</b> <u>Bingtao Hao</u> , Yi Li, Anja Ebert, Meinrad Busslinger, Jane Skok Presenter affiliation: Southern Medical University, Guangzhou, China.	40
<b>Histone demethylase LSD1 is required for normal germinal center formation and lymphoma cell survival</b> <u>Katerina Hatzj</u> , Ari Melnick Presenter affiliation: Weill Cornell Medicine, New York, New York.	41
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<b>Modulation of lncRNA PCAT1 by risk SNPs underlying genetic predispositions to prostate cancer</b> Haiyang Guo, Musaddeque Ahmed, Yi Liang, Junjie Hua, Felix Feng, Paul Boutros, Matthew Freedman, Mathieu Lupien, <u>Housheng H. He</u> Presenter affiliation: Princess Margaret Cancer Center, Toronto, Canada.	43
<b>A BRAT1–BRP1 complex recognizes acetylated histone and prevents transcriptional silencing in Arabidopsis</b> <u>Xin-Jian He</u> Presenter affiliation: National Institute of Biological Sciences, Beijing, China.	44
<b>Structure and function of nucleosomes containing H2A.Z</b> <u>Naoki Horikoshi</u> , Kochi Sato, Yasuhiro Arimura, Hiroyuki Taguchi, Hiroyuki Oku, Masayuki Kusakabe, Masahiko Harata, Hiroshi Kimura, Hitoshi Kurumizaka Presenter affiliation: Waseda University, Tokyo, Japan.	45
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<b>ATM-p53 activation blocks hepatic conversion by sensing chromatin opening</b> <u>Lijian Hui</u> Presenter affiliation: Shanghai Institutes for Biological Sciences, CAS, Shanghai, China.	47
<b>KAP1 is required to maintain constitutive heterochromatin marks during DNA replication</b> <u>Suk Min Jang</u> , Annamaria Kauzlaric, Jean-Pierre Quivy, Julien Pontis, Geneviève Almouzni, Didier Trono Presenter affiliation: EPFL, Lausanne, Switzerland.	48
<b>Chromatin remodeling and Sox2 occupancy mediate neuroectoderm differentiation from human ESCs</b> <u>Yanhua Du</u> , <u>Cizhong Jiang</u> Presenter affiliation: Tongji University, Shanghai, China.	49
<b>H3K9me2 hypermethylation in matrix attachment regions increases expression of neighboring genes</b> <u>Hua Jiang</u> , Jordi Moreno Romero, Juan Santos-González, Claudia Köhler Presenter affiliation: Swedish University of Agricultural Sciences and Linnean Center for Plant Biology, Uppsala, Sweden.	50
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<b>PHB acts in the HIRA complex to control an epigenetic and metabolic circuitry in human embryonic stem cells</b> <u>Zhexin Zhu</u> , Yanwu Zeng, Chunliang Li, Chenlin Zhou, <u>Ying Jin</u> Presenter affiliation: Institute of Health Science, Shanghai, China; Shanghai JiaoTong University School of Medicine, Shanghai, China.	52
<b>Skeletal muscle cell metabolic fluctuation affects histone 23 lysine acylations</b> <u>Chanhee Jo</u> , Eun-jung Cho Presenter affiliation: School of Pharmacy, Sungkyunkwan University, Suwon, Korea.	53



<b>Mutations in PLD6 and MILI in mouse oocytes reveal sex-dependent differences in piRNA regulation</b>	
<u>Yuka Kabayama</u> , Hidehiro Toh, Ami Katanaya, Takahiro Sakurai, Toshiaki Watanabe, Shinichiro Chuma, Yumiko Saga, Satomi Kuramochi-Miyagawa, Toru Nakano, Hiroyuki Sasaki	
Presenter affiliation: Kyushu University, Fukuoka, Japan.	54
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<u>Balint Z. Kacsóh</u> , Julianna Bozler, Sassan Hodge, Giovanni Bosco	
Presenter affiliation: Geisel School of Medicine at Dartmouth College, Hanover, New Hampshire.	55
<b>The E3 ligase, HectH9, modulates K63-linked polyubiquitination of DDX17 and microRNA processing under hypoxia</b>	
<u>Shih-Han Kao</u> , Kou-Juey Wu	
Presenter affiliation: China Medical University, Taichung, Taiwan.	56
<b>Computational prediction, characterization and annotation of super-enhancers and analysis of their key features</b>	
<u>Aziz Khan</u> , Xuegong Zhang	
Presenter affiliation: Tsinghua University, Beijing, China.	57
<b>Core pluripotency factors directly regulate metabolism in embryonic stem cell to maintain pluripotency</b>	
<u>Hyunsoo Kim</u> , Hong-Duk Youn	
Presenter affiliation: National Creative Research Center for Epigenome Reprogramming Network, Seoul, Korea.	58
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<u>Tomoya Kujirai</u> , Naoki Horikoshi, Koichi Sato, Kazumitsu Maehara, Akihisa Osakabe, Shinichi Machida, Yasuyuki Ohkawa, Hiroshi Kimura, Hitoshi Kurumizaka	
Presenter affiliation: Waseda University, Tokyo, Japan.	59
<b>Genome-wide mapping targets of the metazoan chromatin remodeling factor NURF reveals nucleosome remodeling at enhancers, core promoters and gene insulators</b>	
<u>So Yeon Kwon</u> , Valentina Grisan, Boyun Jang, John Herbert, Paul Badenhorst	
Presenter affiliation: University of Birmingham, Birmingham, United Kingdom.	60

- AKT phosphorylates H3-threonine 45 to facilitate termination of gene transcription in response to DNA damage**  
Jong-Hyuk Lee, Hong-Duk Youn  
 Presenter affiliation: Seoul National University College of Medicine, Seoul, Korea. 61
- Methylation-dependent regulation of HIF-1 $\alpha$  stability restricts retinal and tumour angiogenesis**  
Jungi Lee, Yunho Kim, Hey Jin Nam, Sung Hee Baek  
 Presenter affiliation: Seoul National University, Seoul, Korea. 62
- Cooperation of miR-130a and miR-495 increases cell proliferation and tumor angiogenesis in gastric cancer cells by targeting RUNX3 tumor suppressor**  
 Sun Hee Lee, Yuk Dong Jung, Young Sun Choi, Hye-Eun Lee, You Mie Lee  
 Presenter affiliation: Kyungpook National University, Daegu, Korea. 63
- Investigation of Nap1 interaction and nucleosome loading among H3 histone variants**  
Tsz Chui Sophia Leung, Dongbo Ding, Hongwu Yu, Xulun Sun, Toyotaka Ishibashi  
 Presenter affiliation: The Hong Kong University of Science and Technology, Hong Kong, Hong Kong. 64
- JAK3 dependent phosphorylation of EZH2 mediates a switch to non-canonical functions in Natural killer/ T cell lymphoma (NKTL)**  
Boheng Li, Junli Yan, Baohong Lin, Pei Tsung Lee, Tae-Hoon Chung, Joy Tan, Chonglei Bi, Xue Ting Lee, Viknesvaran Selvarajan, Siok-Bian Ng, Henry Yang, Qiang Yu, Wee-Joo Chng  
 Presenter affiliation: National University of Singapore, Singapore. 65
- 3CDB—A manually curated database of chromosome conformation capture data**  
 Xiaoxiao Yun, Lili Xia, Bixia Tang, Hui Zhang, Feifei Li, Zhihua Zhang  
 Presenter affiliation: Beijing Institute of Genomics, Chinese Academy of Sciences, Beijing, China. 66
- H3.3-K27M mutation activates multiple cancer testis antigens**  
 Houliang Deng, Longcai Gong, Chris Jones, Gang Li  
 Presenter affiliation: University of Macau, Taipa, Macau. 67

- Genomic and epigenomic stability in early generations of synthetic rice inter-subspecific (*japonica-indica*) hybrids and auto-allotetraploids**  
Ning Li, Chunming Xu, Xiuyun Lin, Lei Gong, Bao Liu  
 Presenter affiliation: Northeast Normal University, Changchun, China. 68
- A DNA repair-independent function of BRCA1 in tumor suppression**  
Rong Li  
 Presenter affiliation: University of Texas HSC at San Antonio, San Antonio, Texas. 69
- AtJMJ12/REF6 recognizes a specific DNA sequence to demethylate H3K27me3 in *Arabidopsis***  
 Xia Cui, Falong Lu, Qi Qiu, Bing Zhou, Chunyan Liu, Lianfeng Gu, Xuan Ma, Xiaoyu Zhang, Xiaofeng Cao  
 Presenter affiliation: Institute of Genetics & Developmental Biology, CAS, Beijing, China. 70
- Development of gene encoding fluorescent probe detecting enzymatic activity of histone acetyltransferase MOF in living cells**  
 Qianqian Han, Kai Chen, Jiajia Wan, Wenxiu Duan, Dan Liu  
 Presenter affiliation: University of Sciences and Technology of China, Hefei, China. 71
- The dynamics of DNA methylation in Chinese cabbage under high temperature tress**  
Gaofeng Liu, Xilin Hou  
 Presenter affiliation: Nanjing Agricultural University, Nanjing, China. 72
- DNA methylation and super enhancer**  
Hongbo Liu, Yan Zhang  
 Presenter affiliation: Harbin Medical University, Harbin, China. 73
- Suppressing the novel long noncoding RNA RP1X leads to Myc protein destabilization and tumour eradication**  
 Andrew Tee, Pei Y. Liu, Bernard Atmadibrata, Jo Vandesompele, Marcel E. Dinger, Pieter Mestdagh, Tao Liu  
 Presenter affiliation: Children's Cancer Institute Australia, Sydney, Australia. 74

- Naive human pluripotent cells feature a methylation landscape devoid of blastocyst or germline memory**  
 William A. Pastor, Di Chen, Wanlu Liu, Rachel Kim, Anna Sahakyan, Anastasia Lukianchikov, Kathrin Plath, Steven E. Jacobsen, Amander T. Clark  
 Presenter affiliation: University of California, Los Angeles, Los Angeles, California. 75
- Single blastomere sequencing identifies key factors in somatic cell nuclear transfer**  
 Wenqiang Liu, Xiaoyu Liu, Chenfei Wang, Yawei Gao, Rui Gao, Xiaochen Kou, Yanhong Zhao, Jingyi Li, You Wu, Jiqing Yin, Wenchao Xiu, Su Wang, Wei Liu, Tao Cai, Hong Wang, Yong Zhang, Shaorong Gao  
 Presenter affiliation: Tongji University, Shanghai, China; Peking Union Medical College, Beijing, China; National Institute of Biological Sciences, Beijing, China. 76
- The role of histone H3K36 demethylase Rph1 in regulating stress response during chronological aging in *Saccharomyces cerevisiae***  
Wan-Sheng Lo, Long-Chi Wang  
 Presenter affiliation: Academia Sinica, Taipei, Taiwan. 77
- H2A.Z licenses DNA replication origin through promoting ORC1 recruitment by H4K20me2**  
Haizhen Long, Mengjie Lv, Luyuan Chang, Peitao Zhang, Xiulan Chen, Caiwei Jin, Juan Yu, Zengqi Wen, Ping Chen, Mingzhao Zhu, Guohong Li  
 Presenter affiliation: Institute of Biophysics, Chinese Academy of Science, Beijing, China; Graduate School of University of Chinese Academy of Science, Beijing, China. 78
- Establishing chromatin regulatory landscape during mouse early development**  
Falong Lu, Yuting Liu, Azusa Inoue, Tsukasa Suzuki, Keji Zhao, Yi Zhang.  
 Presenter affiliation: Boston Children's Hospital, Boston, Massachusetts. 79
- Coding potential calculation for lncRNA identification and characterization based on multiple features**  
 Long Hu, Zhi J. Lu  
 Presenter affiliation: Tsinghua University, Beijing, China. 80

TUESDAY, May 10—4:30 PM

**Chinese Tea and Beer Tasting**

TUESDAY, May 10—7:00 PM

**SESSION 4** PLANT EPIGENETICS / SPECIAL TALKS

**Chairperson:** **Xiaofeng Cao**, Institute of Genetics and Developmental Biology, CAS, Beijing, China

**Epigenetic gene regulation in *Arabidopsis***

Steve Jacobsen [20']

Presenter affiliation: UCLA, Los Angeles, California.

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**Evolution of sequence-specific anti-silencing by transposable elements in *Arabidopsis***

Tetsuji Kakutani [20']

Presenter affiliation: The University of Tokyo, Tokyo, Japan; National Institute of Genetics, Mishima, Japan.

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**ATRX, the chromatin remodeler, facilitates PRC2 mediated H3K27me3 enrichment at *FLC* chromatin to promote flowering transition in *Arabidopsis thaliana***

Haifeng Wang, Danhua Jiang, Arthur Korte, Sarah Holec, Magnus Nordborg, Frédéric Berger [10']

Presenter affiliation: Gregor Mendel Institute, Vienna, Austria; Temasek Lifesciences Laboratory, Singapore; National University of Singapore, Singapore.

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**Molecular mechanisms of histone demethylases in genome-wide targeting in *Arabidopsis***

Xiaofeng Cao [20']

Presenter affiliation: Institute of Genetics and Developmental Biology, Chinese Academy of Sciences, Beijing, China.

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**DNA methylation and histone modification in developmental and environmental gene regulation**

Xuehua Zhong [10']

Presenter affiliation: University of Wisconsin-Madison, Madison, Wisconsin.

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**An integrated quantitative proteomics strategy for systems-biology of protein post-translational modification (PTM)**

Zhongyi Cheng [20']

Presenter affiliation: PTM Biolabs, Inc, Chicago, Illinois.

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**NIH 4D Nucleome Program Briefing**

Ananda Roy [10']

Presenter affiliation: National Institutes of Health, Bethesda, Maryland.

ROUND TABLE DISCUSSION

**NIH 4D Nucleome Program and Potential International Collaborations**

WEDNESDAY, May 11—9:00 AM

**SESSION 5** CHROMATIN STRUCTURE AND NON-CODING RNA

**Chairperson:** Ruiming Xu, Institute of Biophysics, Beijing, China

**Alteration of chromatin folding by the binding of a viral protein to the nucleosome**

Rui-Ming Xu [20']

Presenter affiliation: Institute of Biophysics, Beijing, China.

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**Structural and functional insights into N6-methyladenine DNA methyltransferase from *Arabidopsis***

Qiang Luo, Jiezhen Mo, Linwei Ruan, Hong Ma, Aiwu Dong, Hailin Wang, Jinbiao Ma [10']

Presenter affiliation: Fudan University, Shanghai, China.

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**Histone contributions to chromatin dynamics**

Hitoshi Kurumizaka [20']

Presenter affiliation: Waseda University, Tokyo, Japan.

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**Molecular coupling of histone crotonylation and transcription activation by AF9 YEATS domain**

Haitao Li [10']

Presenter affiliation: Tsinghua University, Beijing, China.

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**Coffee Break**

**Ubiquitination-deficient mutations in human Piwi (Hiwi) cause male infertility by impairing histone-to-protamine exchange during spermiogenesis**

Lan-Tao Gou, Jun-Yan Kang, Peng Dai, Xin Wang, Feng Li, Mo-Fang Liu [20']

Presenter affiliation: Shanghai Institutes of Biological Sciences, CAS, Shanghai, China.

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**Divergent lncRNAs regulate transcription and lineage differentiation**

Sai Luo, Yuyang Lu, Lichao Liu, Yafei Yin, Yong E. Zhang, Xiaohua Shen [10']

Presenter affiliation: Tsinghua University, Beijing, China.

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**GRID-seq detects chromatin-associated RNAs that define the strength and action range of enhancers**

Xiao Li, Bing Zhou, Liang Chen, Xiang-Dong Fu [20']

Presenter affiliation: UC, San Diego, La Jolla, California.

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**Substrate preference for TET-mediated oxidation**

Lulu Hu, Jingdong Cheng, Junyan Lu, Cheng Luo, Yanhui Xu [10']

Presenter affiliation: Fudan University, Shanghai, China; Fudan University, Shanghai, China.

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WEDNESDAY, May 11—2:00 PM

**SESSION 6**      POSTER SESSION II

**Essential role of Uhrf1 during oocyte growth and preimplantation development**

Shoji Maenohara, Motoko Unoki, Jafar Sharif, Haruhiko Koseki, Hidehiro Toh, Hiroaki Ohishi, Hiroyuki Sasaki

Presenter affiliation: Division of Epigenomics and Development, Fukuoka, Japan.

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**TRF2 is a testis-specific subunit of TFIIA/ALF recruited to active promoters to “fine tune” gene expression in haploid spermatids.**

Igor Martianov, Amandine Velt, Mohamed-Amin Choukrallah, Guillaume Davidson, Irwin Davidson

Presenter affiliation: Institut de Génétique et de Biologie Moléculaire et Cellulaire, CNRS/INSERM/UDS, Illkirch, France.

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<b>diRNAs are generated from transgenes through the posttranscriptional gene silencing pathway</b> <u>Daisuke Miki</u> , Peiyong Zhu, Wencan Zhang, Yanfei Mao, Zhengyan Feng, Huan Huang, Hui Zhang, Yanqiang Li, Renyi Liu, Jian-Kang Zhu Presenter affiliation: Chinese Academy of Sciences, Shanghai, China.	97
<b>Developing a luciferase assay to detect HAT activity</b> <u>Liza Ngo</u> , Y. George Zheng Presenter affiliation: The University of Georgia , Athens , Georgia.	98
<b>Timeless interacts with PARP-1 to promote DNA DSB repair</b> <u>Chengmin Qian</u> Presenter affiliation: The University of Hong Kong, Hong Kong.	99
<b>Histone lysine methyltransferase SUV4-20H2 promotes the production of inflammatory cytokines by methylation HNRNPC</b> <u>Yuting Qin</u> , Lingling Wu, Nan Shen Presenter affiliation: Shanghai Institute of Rheumatology, Renji Hospital, Shanghai, China.	100
<b>Epigenetic damage control is required for vertebrate development and tumor suppression</b> Yelena Chernyavskaya, Vinitha Jacob, <u>Kirsten C. Sadler</u> Presenter affiliation: NYU Abu Dhabi, Abu Dhabi, United Arab Emirates; Icahn School of Medicine at Mount Sinai, New York, New York.	101
<b>RNAi-mediated <i>de novo</i> silencing of an endogenous transposon in <i>Arabidopsis thaliana</i></b> <u>Taku Sasaki</u> , Kae Kato, Yoshiaki Tarutani, Tetsuji Kakutani Presenter affiliation: National Institute of Genetics, Mishima, Japan.	102
<b>Lin28a can regulate gene expression co-transcriptionally through RNA-dependent chromatin-binding.</b> <u>Wen Shao</u> , Xianju Bi, Hui Zhang, Xiaohua Shen Presenter affiliation: Tsinghua University, Beijing, China.	103
<b>The homeoprotein Msx1 cooperates with Emerin for inhibition of transcription and cellular differentiation</b> <u>Huiyuan Shi</u> , Yu Yang, Jingqiang Wang Presenter affiliation: Fudan University, Shanghai, China.	104



**Histone methylation regulation, recognition and link to human disease**

Yang Shi

Presenter affiliation: Harvard Medical School, Boston Children's Hospital, Boston, Massachusetts.

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**Aurkb/PP1-mediated resetting of Oct4 during the cell cycle determines the identity of embryonic stem cells**

Jihoon Shin, Tae Wan Kim, Hyunsoo Kim, Hye Ji Kim, Min Young Suh, Hong-Duk Youn

Presenter affiliation: National Creative Research Center for Epigenome Reprogramming Network, Seoul, Korea.

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**FRIGIDA—its crystal structure and as a biochemical activator of the histone methyltransferase EARLY FLOWERING IN SHORT DAYS**

Kyung-gi Hyun, Jee Eun Oh, Too-Sun Noh, Ji-Joon Song

Presenter affiliation: Korea Advanced Institute of Science and Technology, Daejeon, Korea.

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**Molecular basis for histone H2B monoubiquitination by yeast Bre1-Rad6 complex**

Xiaonan Su, Kwangbeom Hyun, Shuai Zhao, Jiewei Zhao, Jongcheol Jeon, Dinshaw J. Patel, Robert G. Roeder, Jaehoon Kim, Haitao Li

Presenter affiliation: MOE Key Laboratory of Protein Sciences, Beijing, China; Tsinghua-Peking Center for Life Sciences, Beijing, China.

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Presenter affiliation: Jilin University, Changchun, China.

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**Integrative characterization of super-enhancers in mouse skeletal muscle cells**

Xianlu Peng, Yu Zhao, Kam-Hei So, Huating Wang, Hao Sun

Presenter affiliation: The Chinese University of Hong Kong, Shatin, Hong Kong.

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**Epigenetic pattern on the human Y chromosome is evolutionarily conserved**

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Presenter affiliation: Beijing Institute of Genomics, Beijing, China.

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Presenter affiliation: China Medical University, Taichung, Taiwan.

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**Testis-specific histone variant H3t is essential for entry into spermatogenesis**

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Presenter affiliation: Chubu University, Kasugai, Japan; Osaka University, Suita, Japan.

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Charles Underwood, Rob Martienssen, Ian Henderson

Presenter affiliation: Cold Spring Harbor Laboratory, Cold Spring Harbor, New York; University of Cambridge, Cambridge, United Kingdom.

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Presenter affiliation: Tongji University, Shanghai, China.

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Presenter affiliation: Fudan University, Shanghai, China.

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Presenter affiliation: Broad Institute, Cambridge, Massachusetts.

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Presenter affiliation: Shanghai Institutes of Biological Sciences, CAS, Shanghai, China.

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 Presenter affiliation: Key Laboratory of Regenerative Biology, South China Institute for Stem Cell Biology and Regenerative Medicine, Guangzhou, China; CAS Center for Excellence in Molecular Cell Science, Shanghai, China. 136
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Presenter affiliation: Tsinghua University, Beijing, China; Peking University, Beijing, China.

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Presenter affiliation: Karolinska Institutet, Stockholm, Sweden.

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**CDK9 SUMO-modification as a general mechanism for SUMO-mediated transcriptional repression**

Fang Yu, Guang Shi, Jiemin Wong

Presenter affiliation: East China Normal University, Shanghai, China.

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Yang Yu, Jiaqi Gu, Ying Jin, Yicheng Luo, Jonathan Preall, Jinbiao Ma, Benjamin Czech, Gregory Hannon

Presenter affiliation: Institute of Biophysics, Beijing, China; Cold Spring Harbor Laboratory, Cold Spring Harbor, New York.

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Weihua Zeng, Ricardo Ramirez, Camden Jansen, Marissa Macchietto, Shan Jiang, Ana Conesa, Ali Mortazavi

Presenter affiliation: University of California Irvine, Irvine, California.

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**TET2 regulates the differentiation potential of trophoblast stem cells**

Linfeng Zhang, Jiayu Chen, Yuanhui Jia, Kai Wang, Shaorong Gao

Presenter affiliation: Tongji University, School of Life Sciences and Technology, Shanghai, China.

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Tieyuan Zhang, Xianglan Wen, Gang G. Chen, Nicholas O'Toole, Joe Foley, Josie Diorio, Eran A. Mukamel, Michael J. Meaney

Presenter affiliation: McGill University, Montreal, Canada.

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 Presenter affiliation: University of Science and Technology of China, Hefei, China. 148
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- An efficient and assumption free method to approximate protein level distribution**  
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- Crystal structure of *S. aureus* RNase III**  
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 Jun Sun, Joerg Ermann, Laurie H. Glimcher, Weiguo Zou  
 Presenter affiliation: Shanghai Institutes for Biological Sciences, Shanghai, China. 160



**SESSION 7** CIS-ELEMENTS (ENHANCER, PROMOTER AND  
TELOMERE)

**Chairperson:** **Ali Shilatifard**, Northwestern University, Chicago, Illinois

**Identification of H3 lysine 4 monomethylation associated proteins  
at mammalian enhancers**

Andrea Local, Inkyung Jung, Claudio Albuquerque, Ah Young Lee, Wei  
Wang, Chaochen Wang, Kevin Corbett, Andrew Shiao, Kai Ge, Dong  
Wang, Huilin Zhou, Bing Ren [20']

Presenter affiliation: Ludwig Institute for Cancer Research, La Jolla,  
California.

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**Chromosome neighborhoods and their disruption in cancer**

Charles H. Li, Denes Hnisz, Abraham S. Weintraub, Daniel S. Day,  
Rudolf Jaenish, Matthew H. Porteus, Job Dekker, Richard A. Young  
[10']

Presenter affiliation: Whitehead Institute / Massachusetts Institute of  
Technology, Cambridge, Massachusetts.

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**Enhancer regulation by H3K4 methyltransferases MLL3/MLL4 and  
associated H3K27 demethylase UTX**

Kai Ge [10']

Presenter affiliation: NIDDK, Bethesda, Maryland.

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**Enhancer malfunction in cancer**

Ali Shilatifard [20']

Presenter affiliation: Northwestern University, Chicago, Illinois.

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**Unraveling human promoter regulation by an ultra-high  
throughput functional assay**

Joris van Arensbergen, Vincent D. FitzPatrick, Marcel de Haas, Ludo  
Pagie, Harmen J. Bussemaker, Bas van SteENSEL [20']

Presenter affiliation: Netherlands Cancer Institute, Amsterdam, the  
Netherlands.

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**Asymmetrically modified nucleosomes poise gene activation/repression in yeast**

Zhen Zhou, Yu-Ting Liu, Ting Gong, Hong-Tao Li, Chen Cai, Jin-Qiu Zhou [10']

Presenter affiliation: Shanghai Institutes for Biological Sciences, Chinese Academy of Sciences, Shanghai, China; School of Life Science and Technology, Shanghai Tech University, Shanghai, China. 166

**Increased DNA methylation at recombination valley in human regulatory domains**

Xueting Liu, Abhishek Sarkar, Manolis Kellis [10']

Presenter affiliation: Massachusetts Institute of Technology, Cambridge, Massachusetts; Broad Institute, Cambridge, Massachusetts. 167

**Actin modification links nuclear actin to transcription and diseases**

Xuetong (Snow) Shen, Prabodh Kapoor [10']

Presenter affiliation: MD Anderson Cancer Center, Smithville, Texas. 168

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THURSDAY, May 12—9:00 AM

**SESSION 8** CHROMATIN MODIFICATIONS

**Chairperson:** **Or Gozani**, Stanford University, Stanford, California

**EZH2 is a potential therapeutic target for H3K27M mutant pediatric gliomas**

Kristian Helin [20']

Presenter affiliation: University of Copenhagen, Copenhagen, Denmark. 169

**Expanding the substrate scope of the JmjC histone demethylases**

Louise J. Walport, Richard J. Hopkinson, Rasheduzzaman Chowdhury, Rachel Shiller, Wei Ge, Akane Kawamura, Christopher J. Schofield [10']

Presenter affiliation: University of Oxford, Oxford, United Kingdom. 170

**New roles for lysine methylation signaling in epigenetic and disease regulation**

Or Gozani [20']

Presenter affiliation: Stanford University, Stanford, California. 171

**Wild type EZH2 is required in EZH2-Y641 mutation heterozygous lymphoma**

Ruipeng Zhang, Yue Fan, Fangjun Luo, Xinjian Ge, Hui Ge, Peter Atadja, En Li, Wei Qi [10']

Presenter affiliation: China Novartis Institutes for BioMedical Research, Shanghai, China. 172

***Coffee Break***

**Polycomb—Molecular basis of targeting and inheritance**

Jürg Müller [20']

Presenter affiliation: Max-Planck Institute of Biochemistry, Martinsried, Germany. 173

**Canonical Wnt signalling regulates nuclear export of the lysine methyltransferase Setdb1 during skeletal muscle terminal differentiation**

Sophie Beyer, Julien Pontis, Elija Schirwis, Fabien Le Grand, Slimane Ait-Si-Ali [10']

Presenter affiliation: Centre National de la Recherche Scientifique CNRS - Université Paris Diderot, Sorbonne Paris Cité, Paris, France. 174

**Transcriptional complexity in stem cells and cancer**

Luciano Di Croce [20']

Presenter affiliation: CRG - Center for Genomic Regulation, Barcelona, Spain; ICREA, Barcelona, Spain. 175

**Epigenetic and post-translational regulations of hypoxia-mediated gene transcription**

Han-Tsang Wu, Yi-Chih Kuo, Kou-Juey Wu [10']

Presenter affiliation: China Medical University, Taichung, Taiwan. 176

**SESSION 9**      CHROMATIN FUNCTION

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

**Glucose regulates tumor suppressor TET2 and 5hmC through AMPK**

Yujiang G. Shi [20']

Presenter affiliation: Brigham and Women's Hospital and Harvard Medical School, Boston, Massachusetts.

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**Mechanism of enhancer silencing induced by C/EBP $\alpha$  during B cell transdifferentiation into macrophages**

Chris van Oevelen, Thomas Graf [10']

Presenter affiliation: Centre for Genomic Regulation, Barcelona, Spain.

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**Switching from post-transcriptional to transcriptional silencing of retrotransposons during male germ-cell development**

Hiroyuki Sasaki, Kota Inoue, Kei Fukuda, Michael Glinka, Kenji Ichiyangi [20']

Presenter affiliation: Kyushu University, Fukuoka, Japan.

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**Binding of 14-3-3 reader proteins to phosphorylated DNMT1 facilitates aberrant DNA methylation and cell invasion**

Sriharsa Pradhan, Pierre-Olivier Estève, Guoqiang Zhang, V K Chaithanya Ponnaluri, Hang Gyeong Chin, Nan Dai, Cari Sagum, Karynne Black, Ivan R Corrêa Jr, Mark T Bedford, Xiaodong Cheng [10']

Presenter affiliation: New England Biolabs Inc, Ipswich, Massachusetts.

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**Establishing chromatin regulatory landscape during mouse early development**

Yi Zhang [20']

Presenter affiliation: Harvard Medical School and Boston Children's Hospital, Boston, Massachusetts.

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**Coffee Break**

**The regulation and target gene recruitment of TET DNA dioxygenases**

Yue Xiong [20']

Presenter affiliation: University of North Carolina at Chapel Hill, Chapel Hill, North Carolina; Fudan University, Shanghai, China.

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**Global landscape and regulatory principles of DNA methylation reprogramming for germ cell specification by mouse pluripotent stem cells**

Kenjiro Shirane, Kazuki Kurimoto, Yukihiro Yabuta, Masashi Yamaji, Akira Watanabe, Katsuhiko Hayashi, Mitinori Saitou, Hiroyuki Sasaki [10']

Presenter affiliation: Kyushu University, Fukuoka, Japan.

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**Epigenetic mechanisms in early mammalian development**

Maria-Elena Torres-Padilla [20']

Presenter affiliation: Institut de Genetique et de Biologie Moleculaire et Cellulaire, Strasbourg, France; Helmholtz Centre Munich, Munich, Germany.

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**DNA methylation regulates intron retention via Mecp2-mediated splicing factor recruitment**

Justin J. Wong, Dadi Gao, Trung Nguyen, William Ritchie, John Rasko [10']

Presenter affiliation: Centenary Institute, Camperdown, Australia; Sydney Medical School, Camperdown, Australia.

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**Epigenetic mechanisms impact DNA copy number of drug resistant associated loci**

Johnathan Whetstone [20']

Presenter affiliation: Harvard Medical School and Massachusetts General Hospital, Charlestown, Massachusetts.

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THURSDAY, May 12—6:00 PM

**COCKTAILS and BANQUET**

**SESSION 10** CLOSING SESSION / KEYNOTE SPEAKER

**Chairperson:** **Bing Zhu**, Institute of Biophysics, Chinese Academy of Sciences, Beijing, China

**Alterations in nucleosome accessibility during regulation**

Mei-Sheng Lau, Sharmistha Kundu, Britta Mueller, Jakub Mieczkowski, April Cook, Aimee Deaton, Sarah Bowman, Michael Tolstorukov, Bob Kingston [35']

Presenter affiliation: Massachusetts General Hospital, Boston, Massachusetts; Harvard Medical School, Boston, Massachusetts. 187

**N-a-acetyltransferase 10 protein, a novel DNA binding protein, is required for global DNA methylation**

Li-Jung Juan [10']

Presenter affiliation: Genomics Research Center, Taipei, Taiwan. 188

**Role of Tet-mediated DNA oxidation in post-implantation embryonic development**

Guo-Liang Xu [20']

Presenter affiliation: Institute of Biochemistry and Cell Biology, Shanghai, China. 189

**Coffee Break**

**Preferential further oxidation of 5-hydroxymethylcytosine at distinct chromatin regions**

Bing Zhu [20']

Presenter affiliation: Institute of Biophysics, Chinese Academy of Sciences, Beijing, China. 190

**The evolution of DNA methylation inheritance and programming in mammals**

Jiang Liu [10']

Presenter affiliation: Beijing Institute of Genomics, Beijing, China. 191

**Novel players in chromatin**

Robert Schneider [20']

Presenter affiliation: Insitute for Functional Epigenetics, Munich, Germany; IGBMC, Strasbourg, France. 192