

PROGRAM

MONDAY, October 29—7:00 PM

SESSION 1 STRUCTURAL INSIGHTS ABOUT SPLICEOSOME AND RNA MACHINES

Chairperson: **Anna Pyle**, Yale University, New Haven, Connecticut, USA

KEYNOTE SPEAKER

Structural basis of pre-mRNA splicing by the spliceosome

Yigong Shi [35'+10']

Presenter affiliation: Tsinghua University, Beijing, China. 1

Structure and function of the spliceosome

Rui Zhao, Xueni Li, Shiheng Liu, Hong Zhou [20'+10']

Presenter affiliation: University of Colorado Denver, Aurora, Colorado. 2

Visualizing and targeting RNA tertiary structure—Group II introns as antifungal drug targets

Anna Pyle [20'+10']

Presenter affiliation: Yale University, New Haven, Connecticut. 3

TUESDAY, October 30—9:00 AM

SESSION 2 BIOGENESIS AND FUNCTION OF SMALL ncRNAs AND circRNAs

Chairpersons: **Yukihide Tomari**, University of Tokyo, Tokyo, Japan
Benoit Chabot, Université de Sherbrooke, Sherbrooke, Canada

Iruka ensures the quality of Argonaute by selective ubiquitination of its empty state

Yukihide Tomari [20'+10']

Presenter affiliation: The University of Tokyo, Tokyo, Japan. 4

The atlas of DROSHA cleavage sites on primary microRNAs <u>Kijun Kim</u> , S. Chan Baek, V. Narry Kim [10'+5'] Presenter affiliation: Institute for Basic Science, Seoul, South Korea; Seoul National University, Seoul, South Korea.	5
A novel class of 20-nucleotide piRNAs predominantly expressed in human oocytes revealed by CAS-Seq Qiyuan Yang, Ronghong Li, Qifeng Lyu, Li Hou, Yiping Li, <u>Ligang Wu</u> [10'+5'] Presenter affiliation: Shanghai Institutes for Biological Sciences, Shanghai, China.	6
Drosophila Nxf2 is a cofactor of Panoramix required for piRNA mediated transcriptional silencing Kang Zhao, Sha Cheng, Ping Xu, Na Miao, Xun Yuan, Xin Lu, Xuan Ouyan, Peng Zhou, Ming Wang, Jiaqi Gu, Ying Huang, <u>Yang Yu</u> [10'+5'] Presenter affiliation: Institute of Biophysics, CAS, Beijing, China.	7
Coffee / Tea Break	
Characterization of circular RNAs in cell differentiation and human disease <u>Jørgen Kjems</u> [20'+10'] Presenter affiliation: Aarhus University, Aarhus, Denmark.	8
A novel class of circular RNAs with physiological functions <u>Ge Shan</u> [20'+10'] Presenter affiliation: University of Science and Technology of China, Hefei, China.	9
Widespread and functional RNA circularization in localized prostate cancer <u>Suijun Chen</u> , Vincent Huang, Xin Xu, Julie Livingstone, Fraser Soares, Paul C. Boutros, Housheng H. He [10'+5'] Presenter affiliation: University of Toronto, Toronto, Canada; University Health Network, Toronto, Canada; Ontario Institute for Cancer Research, Toronto, Canada.	10
Unconventional RNA form and function <u>Ling-Ling Chen</u> [20'+10'] Presenter affiliation: Shanghai Institute of Biochemistry and Cell Biology, CAS, Shanghai, China.	11

SESSION 3 POSTER SESSION

CLIPick—An expression-based deconvolution software for sensitive resolving of HITS-CLIP peaks

Seung Hyun Ahn, Sihyung Park, Eun Sol Cho, You Kyung Cho, Eun-Sook Jang, Sung Wook Chi

Presenter affiliation: Korea University, Seoul, South Korea.

12

Therapeutic effect of RECTAS for familial dysautonomia by activating SRSF6 on IKBKAP splicing enhancer

Masahiko Ajiro, Young-Jin Kim, Tomonari Awaya, Lorenz Studer, Adrian R. Krainer, Masatoshi Hagiwara

Presenter affiliation: Kyoto University Graduate School of Medicine, Kyoto, Japan.

13

Crosstalk between alternative polyadenylation and miRNA in the regulation of protein translational efficiency

Yonggui Fu, Liutao Chen, Chengyong Chen, Yutong Ge, Mingjing Kang, Zili Song, Jingwen Li, Yuchao Feng, Zhanfeng Huo, Guopei He, Mengmeng Hou, Shangwu Chen, Anlong Xu

Presenter affiliation: Sun Yat-sen University, Guangzhou, China.

14

Catabolism of N⁶-methyl-AMP from m⁶A RNA turnover

Mingjia Chen, Claus-Peter Witte

Presenter affiliation: Leibniz University Hannover, Hannover, Germany.

15

A U2 snRNP-independent role of SF3b in promoting mRNA export

Ke Wang, Changping Yin, Lantian Wang, Yong Yu, Changshou Wang, Binkai Chi, Min Shi, Robin Reed, Jing Huang, Hong Cheng

Presenter affiliation: University of Chinese Academy of Sciences, Shanghai, China.

16

Analysis of positional and thermodynamic features impacting asymmetric loading of miRNA duplex onto Argonaute

Youkyung Cho, Sangkyeong Eom, Jongjin Peak, Sung Wook Chi

Presenter affiliation: Korea University, Seoul, South Korea.

17

Cancer proliferation is inhibited by dissociation of Rbfox2 from stress granules <u>Sunkyung Choi</u> , Kee K. Kim Presenter affiliation: Chungnam National University, Deajoen, South Korea.	18
RNA stabilization and structure determination using chemical modification <u>Ye Cong</u> , Zhiqiang Liu, Hang Shi Presenter affiliation: School of Life Sciences, Tsinghua University, Beijing, China.	19
Mutant mRNA decay confers genetic robustness to mutations by triggering a transcriptional adaptation response <u>Mohamed A. El-Brolosy</u> , Andrea Rossi, Zacharias Kontarakis, Carsten Kuenne, Stefan Günther, Nana Fukuda, Khrievono Kikhi, Carter Takacs, Shih-Lei Lai, Ryuichi Fukuda, Claudia Gerri, Antonio J. Giraldez, Didier Y. Stainier Presenter affiliation: Max Planck Institute for Heart and Lung Research, Bad Nauheim, Germany.	20
3' uridylation expands miRNA target repertoire Acong Yang, Tie-Juan Shao, Xavier Bofill-De Ros, Minjie Jiang, Katherine Li, Patricia Villanueva, Lisheng Dai, <u>Shuo Gu</u> Presenter affiliation: RNA Biology Laboratory, National Cancer Institute, Frederick, Maryland.	21
FAST is required for hESCs pluripotency by promoting Wnt signaling pathway <u>Chun-Jie Guo</u> , Yu-Hang Xing, Xu-Kai Ma, Lin Shan, Li Yang, Ling-Ling Chen Presenter affiliation: Shanghai Institute of Biochemistry and Cell Biology, Shanghai, China.	22
Chloroplast and mitochondria dual targeted glycyl-tRNA synthetase OsGlyRS2 participates in plant response to ambient temperature <u>Qiang Hao</u> , Chao Yang, Xiangjin Wei, Jie Gong, Runlai Hang, Xianwei Song, Chunyan Liu, Yanyuan Kang, Xiaofeng Cao Presenter affiliation: Institute of Genetics and Developmental Biology, Beijing, China.	23

Disruption of *Sfpq* causes selective downregulation of long genes and impaired skeletal muscle metabolism

Motoyasu Hosokawa, Akihide Takeuchi, Jun Tanihata, Kei Iida, Shin'ichi Takeda, Masatoshi Hagiwara

Presenter affiliation: Kyoto University, Kyoto, Japan; National Center of Neurology and Psychiatry, Tokyo, Japan.

24

METTL3-mediated N⁶-methyladenosine mRNA modification enhances long-term memory consolidation

Zeyu Zhang, Meng Wang, Dongfang Xie, Zenghui Huang, Lisha Zhang, Ying Yang, Dongxue Ma, Wenguang Li, Qi Zhou, Yun-Gui Yang, Xiu-Jie Wang

Presenter affiliation: Key Laboratory of Genetic Network Biology, Beijing, China; College of Life Sciences, University of Chinese Academy of Sciences, China.

25

Oncogenic splicing factor SRSF3 regulates ILF3 alternative splicing to promote cancer cell proliferation and transformation

Rong Jia, Masahiko Ajiro, Lulu Yu, Philip J. McCoy, Zhi-Ming Zheng

Presenter affiliation: Tumor Virus RNA Biology Section, RNA Biology Laboratory, National Cancer Institute, National Institutes of Health, Frederick, Maryland; School and Hospital of Stomatology, Wuhan University, Wuhan, China.

26

PCBP1 inhibits the expression of oncogenic STAT3 isoform by targeting alternative splicing of STAT3 exon 23

Xiaole Wang, Jihua Guo, Xiaoxuan Che, Rong Jia

Presenter affiliation: School and Hospital of Stomatology, Wuhan University, Wuhan, China.

27

Identification of tumor suppressor RBM4a as a repressor of cancer-specific mature mRNA re-splicing

Toshiki Kameyama, Kazuhiro Fukumura, Masashi Nakatani, Yuta Ohtani, Kunio Inoue, Tetsuro Hirose, Akira Mayeda

Presenter affiliation: Fujita Health University, Toyoake, Japan.

28

Regulation of PKR activation by mitochondrial double-stranded RNAs

Sujin Kim, Jayoung Ku, Yoosik Kim

Presenter affiliation: KAIST, Daejeon, South Korea.

29

RBM47 regulates the alternative splicing of TJP1 during epithelial-mesenchymal transition <u>Yong-Eun Kim, Kee K. Kim</u> Presenter affiliation: Chungnam National University, Daejeon, South Korea.	30
PKR senses nuclear and mitochondrial signals by interacting with endogenous double-stranded RNAs <u>Yoosik Kim, Joha Park, Sujin Kim, MinA Kim, Myeong-Gyun Kang, Chulhwan Kwak, Minjeong Kang, Baekgyu Kim, Hyun-Woo Rhee, V. Narry Kim</u> Presenter affiliation: Institute for Basic Science, Seoul, South Korea; Korea Advanced Institute of Science and Technology, Daejeon, South Korea.	31
Clinically applicable RNA <i>in situ</i> hybridization method to detect and quantify exon 2 skipping variant of AIMP2 <u>Jayoung Ku, Dongchan Kim, Seulki Song, Keonyong Lee, Youngil Koh, Yoosik Kim</u> Presenter affiliation: Korea Advanced Institute of Science and Technology (KAIST), Daejeon, South Korea.	32
Widespread noncanonical target recognition of miR-1 encodes cardiac hypertrophy <u>Haajeong Lee, Heeyoung Seok, Seung Hyun Ahn, Sohyun Lee, Sung Wook Chi</u> Presenter affiliation: Korea University, Seoul, South Korea.	33
Ectopic induction of noncanonical target repression of miR-1 in mouse heart develops cardiac hypertrophy <u>Sohyun Lee, Hee Young Seok, Seung Hyun Ahn, Haajeong Lee, Hye-Sook Lee, Yeojin Jeong, Guen-Woo Kim, Sung Wook Chi</u> Presenter affiliation: Korea University, Seoul, South Korea.	34
A radiolabeling-free, qPCR-based method for locus-specific pseudouridine detection <u>Zhixin Lei, Chengqi Yi</u> Presenter affiliation: Peking University, Beijing, China.	35
Nuclear miR-320 mediates diabetes-induced cardiac dysfunction by activating transcription of fatty acid metabolic genes to cause lipotoxicity in the heart <u>Huaping Li, Chen Chen, DaoWen Wang</u> Presenter affiliation: Tongji Hospital, Tongji Medical College, Huazhong University of Science and Technology, Wuhan, China.	36

A novel method for genome-wide profiling of dynamic host-pathogen interactions using 3' end enriched RNA-seq	
<u>Jie Li</u> , Liangliang He, Yongchang Cao	
Presenter affiliation: Sun Yat-sen University, Guangzhou, China; Changshu Institute of Technology, Suzhou, China; Guangdong Wen's Foodstuffs Group Co., Yunfu, China.	37
Understanding and visualizing mRNA localization	
<u>Zhimin Li</u> , Ruotong Zhang, Hongjie Zhang	
Presenter affiliation: University of Macau, Macau, China.	38
Cryo-EM structure of human Dicer and its complexes with a pre-miRNA substrate	
<u>Zhongmin Liu</u> , Jia Wang, Hang Cheng, Xin Ke, Qiangfeng Zhang, Lei Sun, Hongwei Wang	
Presenter affiliation: School of Life Sciences, Beijing, China.	39
An origin of the immunogenicity of in vitro transcribed RNA	
<u>Xin Mu</u> , Emily Greenward, Sadeem Ahmad, Sun Hur	
Presenter affiliation: Harvard Medical School, Boston, Massachusetts; Boston Children's Hospital, Boston, Massachusetts.	40
RNA m⁶A methylation is involved in regulating postnatal development of the mouse cerebellum	
Chunhui Ma, Mengqi Chang, Hongyi Lv, Zhiwei Zhang, Shuhui Song, <u>Yamei Niu</u> , Wei-min Tong	
Presenter affiliation: Institute of Basic Medical Sciences, Chinese Academy of Medical Sciences, Beijing, China.	41
Identification of cytokine specific regulated genes in liver through STAT5 binding	
<u>Chaeun Oh</u> , Eunhae Park, Su Min Yoon, Sumin Oh, Kyung Hyun Yoo	
Presenter affiliation: Sookmyung Women's University, Seoul, South Korea.	42
siAbasic—Ascertaining potent siRNA-6Ø sequences without off-target effects	
<u>Jongyeun Park</u> , Seung Hyun Ahn, Kwang Moon Cho, Dowoon Gu, Eun-Sook Jang, Sung Wook Chi	
Presenter affiliation: Korea University, Seoul, South Korea.	43

<p>Transgenic expression of a picornaviral RNA-dependent RNA polymerase (RdRP) in mice is strongly protective against Friend retrovirus infection Caitlin M. Miller, Bradley S. Barrett, James H. Morrison, Chommanart Thongkittidilok, Eric M. Poeschla Presenter affiliation: University of Colorado School of Medicine, Aurora, Colorado.</p>	44
<p>Sustained ISG induction by parabiosis and bone marrow transplantation from viral RdRP-transgenic mice to wild-type mice Guoqi Liu, James H. Morrison, Chommanart Thongkittidilok, Christopher Manuel, Eric M. Poeschla Presenter affiliation: University of Colorado School of Medicine, Aurora, Colorado.</p>	45
<p>Variations in MIR499B revealed the formation of two internal small loops in its precursor that may implicate to risk of breast cancer Aftab Ali Shah, taqweem Ul Haq, Mushtaq Ahmad Presenter affiliation: University of Malakand, Chakdara, Pakistan, Chakdara, Pakistan.</p>	46
<p>Raly regulates multiple alternative splicing events through at least three consecutive U sequences Hana Jang, Yongchao Liu, Haihong Shen Presenter affiliation: Gwangju Institute of Science and Technology, Gwangju, South Korea.</p>	47
<p>How to transport mRNA in the cytoplasm?—A lesson from yeast Hang Shi, Nimisha Singh, Philipp Esselborn, Günter Blobel Presenter affiliation: Tsinghua University, Beijing, China.</p>	48
<p>Structural dynamics of the N-terminal domain and the Switch loop of Prp8 during spliceosome assembly and activation Xu Jia, Chengfu Sun Presenter affiliation: Non-coding RNA and Drug Discovery Key Laboratory of Sichuan Province, Chengdu, China.</p>	49
<p>lncRNA Synage affects functional-specific genes of cerebellum in aging process Fei Wang, Qianqian Wang, Baowei Liu, Juan Shi, Xiaoyuan Song Presenter affiliation: Chinese Academy of Sciences Key Laboratory of Brain Function and Disease, and School of Life Sciences, Hefei, China.</p>	50

<p>Exploring transcriptional complexity by determining transcription start and end sites simultaneously in mammalian cells <u>Jingwen Wang</u>, Bingnan Li, Wu Wei, Lars M. Steinmetz, Vicent Pelechano Presenter affiliation: Karolinska Institutet and Science for Life Laboratory, Solna, Sweden.</p>	51
<p>Structural basis for type III CRISPR-Cas immunity Lilan You, Jun Ma, <u>Jiuyu Wang</u>, Daria Artamonova, Min Wang, Liang Liu, Konstantin Severinov, Xinzheng Zhang, Yanli Wang Presenter affiliation: Institute of Biophysics, Chinese Academy of Sciences, Beijing, China.</p>	52
<p>Genome-wide screening of <i>NEAT1</i> regulators reveals cross-regulation between paraspeckles and mitochondria <u>Yang Wang</u>, Shi-Bin Hu, Meng-Ran Wang, Run-Wen Yao, Li Yang, Ling-Ling Chen Presenter affiliation: Shanghai Institute of Biochemistry and Cell Biology, Shanghai, China.</p>	53
<p>Systematic survey of PRMT interactome reveals key roles of arginine methylation in global regulation of translation and splicing <u>Huan-Huan Wei</u>, Xiao-Juan Fan, Yue Hu, Chao Peng, Yun Yang, Zhao-Yuan Fang, Ping Wu, Xiao-Xu Tian, Shuai-Xin Gao, Zefeng Wang Presenter affiliation: Chinese Academy of Sciences, ShangHai, China.</p>	54
<p>Control of tillering by RNA-directed DNA methylation in rice <u>Le Xu</u>, Kun Yuan, Jiayang Li, Yijun Qi Presenter affiliation: Center for Plant Biology, School of Life Sciences, Beijing, China.</p>	55
<p>Visualization of RNAs in live cells by the CRISPR-Cas13 system <u>Liang-Zhong Yang</u>, Si-Qi Li, Yang Wang, Ling-Ling Chen Presenter affiliation: CAS Center for Excellence in Molecular Cell Science, Shanghai Institute of Biochemistry and Cell Biology, Shanghai, China.</p>	56
<p>Pervasive translation of circular RNA <u>Yun Yang</u>, Xiaojuan Fan, Zefeng Wang Presenter affiliation: Chinese Academy of Sciences, Shanghai, China.</p>	57

- RNA-binding protein DDX5 inhibits reprogramming to pluripotency by miRNA-based repression of RYBP and its PRC1-dependent and -independent functions**
Huanhuan Li, Ping Lai, Jinping Jia, Yawei Song, Qing Xia, Kaimeng Huang, Na He, Wangfang Ping, Jiayu Chen, Zhongzhou Yang, Chunhui Hou, Miguel A. Esteban, Shaorong Gao, Duanqing Pei, Andrew P. Hutchins, Hongjie Yao
Presenter affiliation: Guangzhou Institutes of Biomedicine and Health, Chinese Academy of Sciences, Guangzhou, China. 58
- ciRS-7 is biosynthesized using back-splicing promoted by inverted MIR elements and is exported to cytoplasm via Tap/p15 pathway**
Rei Yoshimoto, Ichiro Taniguchi, Mutsuhito Ohno, Akila Mayeda
Presenter affiliation: Fujita Health University, Aichi, Japan. 59
- A novel role for RNA processing in epithelial morphogenesis**
Ruotong Zhang, Zhimin Li, Hongjie Zhang
Presenter affiliation: University of Macau, Taipa, China. 60
- Cryo-EM snapshots of the human spliceosome—Mechanistic insights into precursor messenger RNA splicing**
Xiaofeng Zhang, Xiechao Zhan, Chuangye Yan, Yigong Shi
Presenter affiliation: Tsinghua University, Beijing, China. 61
- Intronic heterochromatin prevents cryptic transcription initiation on Arabidopsis *FLC***
Jincong Zhou, Qin Li, Wei Xu, Zhi-Wei Wang, Liangyu Liu, Qianwen Sun
Presenter affiliation: Tsinghua University, Beijing, China. 62
- 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. 63

EXHIBITOR ABSTRACT

- History of RNA and mRNA—From the Cold Spring Harbor Laboratory Archives**
Mila Pollock, Clare Clark, Stephanie Satalino
Presenter affiliation: Cold Spring Harbor Laboratory Archives, Cold Spring Harbor, New York. 64

TUESDAY, October 30—4:30 PM

Chinese Tea and Beer Tasting

TUESDAY, October 30—7:00 PM

SESSION 4 RNA PROCESSING, DISEASES, AND THERAPEUTICS

Chairperson: **Alberto R. Kornblihtt**, University of Buenos Aires, Argentina

Quantitative activity profile and context dependence of all human 5' splice sites

Mandy Wong, Justin B. Kinney, Adrian Krainer [20'+10']
Presenter affiliation: Cold Spring Harbor Laboratory, Cold Spring Harbor, New York. 65

Splicing therapy for cardiac Fabry disease

Masahiko Ajiro, Tomonari Awaya, Masatoshi Hagiwara [20'+10']
Presenter affiliation: Kyoto University Graduate School of Medicine, Kyoto, Japan. 66

Novel miRNA based therapeutic development for cancer

Jingfang Ju [20'+10']
Presenter affiliation: State University of New York at Stony Brook, Stony Brook, New York. 67

A role for chromatin in the alternative splicing-based therapy of spinal muscular atrophy

Alberto R. Kornblihtt [20'+10']
Presenter affiliation: Universidad de Buenos Aires (UBA), Buenos Aires, Argentina. 68

Nuclear non-coding RNAs Eleanors, define the active ESR1 chromatin domain in breast cancer cells

Noriko Saitoh [10'+5']
Presenter affiliation: The Cancer Institute of JFCR, Tokyo, Japan. 69

SESSION 5 GENOMIC ANALYSIS OF RNA AND RNA-BINDING PROTEINS

Chairpersons: **Benjamin Blencowe**, University of Toronto, Toronto, Canada
Eric Lécuycer, IRCM, Montreal, Canada

A splicing regulatory network commonly disrupted in autism spectrum disorder

Thomas Gonatopoulos-Pournatzis, Mingkun Wu, Andrew Best, Hong Han, Ulrich Braunschweig, Jonathan Roth, Robert J. Weatheritt, Bushra Raj, Michael Aregger, Dave O'Hanlon, Jonathan D. Ellis, John A. Calarco, Jason Moffat, Anne-Claude Gingras, Sabine P. Cordes, Benjamin J. Blencowe [20'+10']

Presenter affiliation: University of Toronto, Toronto, Canada. 70

Integrative analysis of Zika virus genome RNA structure reveals critical determinants of viral infectivity

Qiangfeng C. Zhang [10'+5']

Presenter affiliation: Tsinghua University, Beijing, China. 71

Systematical discovery of cis-elements regulating alternative polyadenylation in mammalian cells

Min Zhang, Yisheng Li, Yuhao He, Juexiao Zhou, Hongyu Chen, Wei Chen [10'+5']

Presenter affiliation: the South University of Science and Technology, Shenzhen, China. 72

RNA in situ conformation sequencing reveals the architecture and regulation of the human transcriptome

Zhaokui Cai, Changchang Cao, Lei Ji, Di Wang, Rong Ye, Lei Wang, Yuanchao Xue [20'+10']

Presenter affiliation: Key Laboratory of RNA Biology, Beijing, China; University of Chinese Academy of Sciences, Beijing, China. 73

Coffee / Tea Break

Large-scale ChIP-seq analysis reveals extensive interaction of RNA binding proteins with chromatin and RBM25-dependent YY1 function in transcription

Rui Xiao, Jiayu Chen, Zhengyu Liang, Michael Q. Zhang, Yu Zhou, Xiang-Dong Fu [20'+10']

Presenter affiliation: UC, San Diego, La Jolla, California; Wuhan University, Wuhan, China

74

Modeling RNA-binding protein specificity using single-nucleotide-resolution binding maps

Chaolin Zhang [20'+10']

Presenter affiliation: Columbia University, New York, New York.

75

Transiently depleting RNPS1 leads to perdurable changes in alternative splicing

Benoit Chabot, Jerome Barbier, Alexandre Cloutier

Presenter affiliation: Université de Sherbrooke, Sherbrooke, Canada.

76

WEDNESDAY, October 31—1:30 PM

Visit to Old Suzhou

WEDNESDAY, October 31—7:00 PM

SESSION 6 NEW INSIGHTS ABOUT RIBOPROTEIN COMPLEXES

Chairperson: **Rui Zhao**, University of Colorado Denver, Denver, Colorado, USA

CRISPR-Cas mediated cleavage of invading nucleic acids

Liang Liu, Jiazhi Li, Jiuyu Wang, Jun Ma, Min Wang, Xueyan Li, Xinzheng Zhang, Yanli Wang [20'+10']

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

77

The ribonuclease activity of MARF1 controls oocyte RNA homeostasis and genome integrity in mice

Jinbiao Ma [10'+5']

Presenter affiliation: Fudan University, Shanghai, China.

78

Structural insights into the sequence-specific recognition of Piwi by *Drosophila* Papi

Yuhan Zhang, Weiwei Liu, Ronghong Li, Jiaqi Gu, Ping Wu, Chao Peng, Jinbiao Ma, Ligang Wu, Yang Yu, Ying Huang [10'+5']
Presenter affiliation: Shanghai Institute of Biochemistry and Cell Biology, Chinese Academy of Sciences, Shanghai, China.

79

Translational regulation during seed maturation revealed by polysome profiling

Bing Bai, Sjors van der Horst, Johannes Hanson, Leónie Bentsink [10'+5']
Presenter affiliation: Wageningen University, Wageningen, the Netherlands.

80

RNA-seq analyses of picornaviral RNA-dependent RNA polymerase (RdRP)-transgenic mice reveal critical regulatory pathways that may suggest avenues to inhibit nucleic acid-triggered autoimmune pathologies

Laura A. Bankers, James H. Morrison, Eric M. Poeschla [10'+5']
Presenter affiliation: University of Colorado School of Medicine, Aurora, Colorado.

81

Y RNAs—Tethers, tRNA mimics and triggers of autoimmunity

Sandra L. Wolin [20'+10']
Presenter affiliation: National Cancer Institute, Frederick, Maryland.

82

THURSDAY, November 1—9:00 AM

SESSION 7 RNA PROCESSING, LOCALIZATION, AND REGULATION

Chairpersons: **Zhi-Ming Zheng**, National Cancer Institute, Frederick, Maryland, USA
Daniel Larson, National Cancer Institute, Bethesda, Maryland, USA

Regulation of gene expression through intronic polyadenylation

Bin Tian [20'+10']
Presenter affiliation: Rutgers University, Newark, New Jersey.

83

The RNA processing factor Y14 participates in DNA damage response and repair

Tzu-Wei Chuang, Chia-Chen Lu, Chun-Hao Su, Pei-Yu Wu, Sarasvathi Easwaran, Woan-Yuh Tarn [10'+5']

Presenter affiliation: Academia Sinica, Taipei, Taiwan.

84

When alternative splicing meets Wnt signaling

Jiancheng Yu, Tingting Jia, Huairui Yuan, Jinzhu Wang, Jun Qin, Jingyi Hui [10'+5']

Presenter affiliation: Institute of Biochemistry and Cell Biology, Shanghai, China; CAS Center for Excellence in Molecular Cell Science, Shanghai, China.

85

Pan-tissue analyses of allele-specific alternative splicing in hybrid mice

Bernhard Schaefer, Xudong Zou, Fujian Jia, Guipeng Li, Qingsong Gao, Wei Sun, Weizheng Liang, Tino Hocheppied, Claude Libert, Wei Chen [10'+5']

Presenter affiliation: Southern University of Science and Technology, Shenzhen, China.

86

Using molecular beacons for live-cell imaging of single RNA transcripts and genomic loci

Antony K. Chen [10'+5']

Presenter affiliation: Peking University, Beijing, China.

87

Coffee / Tea Break

Dynamic imaging of nascent RNA reveals general principle of transcription dynamics and widespread recursive splicing

Yihan Wan, Gudla Prabhakar, Joseph Rodriguez, Murali Palangat, Daniel R. Larson [20'+10']

Presenter affiliation: National Cancer Institute, Bethesda, Maryland.

88

Systematic approaches to study the subcellular localization properties of RNAs and RNA binding proteins.

Eric Lécuyer [20'+10']

Presenter affiliation: IRCM, Montreal, Canada.

89

Mechanisms in virus manipulation of RNA processing bodies

Zhi-Ming Zheng [20'+10']

Presenter affiliation: National Cancer Institute/NIH, Frederick, Maryland.

90

SESSION 8 RNA STRATEGIES FOR GENOME SURVEILLANCE

Chairpersons: **Jeff Coller**, Case Western Reserve University, Cleveland, Ohio, USA

Li Yang, CAS-MPG Partner Institute for Computational Biology, Shanghai, China

Codon and amino acid use is a major determinant of mRNA stability in humans

Megan Forrest, Ashrut Narula, Gavin Hanson, James Ellis, Olivia Rissland, Jeff Coller [20'+10']

Presenter affiliation: Case Western Reserve University, Cleveland, Ohio.

91

The Integrator complex cleaves nascent mRNAs to attenuate transcription

Deirdre C. Tatomer, Telmo Henriques, Nathan D. Elrod, Dongming Liang, David Baillat, Michael Jonathan, Karen Adelman, Eric J.

Wagner, Sara Cherry, Jeremy E. Wilusz [20'+10']

Presenter affiliation: University of Pennsylvania Perelman School of Medicine, Philadelphia, Pennsylvania.

92

NRDE2 negatively regulates nuclear exosome functions and controls embryonic stem cell self-renewal

Guifen Wu, Jiyun Chen, Janshu Wang, Hongling Zhang, Li Zhang, Ke

Wang, Xudong Wu, Shouxiang Zhang, Bin Kuai, Peng Zhao, Binkai

Chi, Lantian Wang, Guohui Li, Jingsong Li, Caihong Yun, Hong Cheng [10'+5']

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

93

RBFOX2 acts as a tumor suppressor in metastatic pancreatic cancer

Amina Jbara, Chani Stossel, Miri Danan-Gotthold, Maria Raitses-Gurevich, Erez Y. Levanon, Talia Golan, Rotem Karni [10'+5']

Presenter affiliation: IMRIC, Hebrew University-Hadassah Medical School, Jerusalem, Israel.

94

Coffee / Tea Break

Harness unintended nucleic acid mutation to targeted base editing

Xiao Wang, Ying Wang, Liqun Lei, Lijie Wang, Wei Xue, Bei Yang, Xingxu Huang, Jia Chen, Li Yang [20'+10']

Presenter affiliation: CAS-MPG Partner Institute for Computational Biology, Shanghai, China.

95

Drosophila tsRNAs preferentially suppress general translation machinery via antisense pairing and participate in cellular starvation response

Jian Lu [10'+5']

Presenter affiliation: Peking University, Beijing, China.

96

CRISPR sgRNA targeting sequences and engineered Cas9 variants determines staggered cleavage profiles with diverse overhangs

Jia Shou, Jinhuan Li, Qiang Wu [10'+5']

Presenter affiliation: Center for Comparative Biomedicine, Institute of Systems Biomedicine, Shanghai Jiao Tong University, Shanghai, China; Renji Hospital, SJTU Medical School, Shanghai, China.

97

Dynamic landscape and regulome of mRNA structure during zebrafish early embryogenesis

Boyang Shi, Jinsong Zhang, Jing Gong, Jian Heng, Ting Zhang, Pan Li, Baofa Sun, Ying Yang, Ning Zhang, Hailin Wang, Feng Liu, Qiangfeng Cliff Zhang, Yun-Gui Yang [10'+5']

Presenter affiliation: CAS Center for Excellence in Molecular Cell Science, Beijing Institute of Genomics, Chinese Academy of Sciences, Beijing, China; School of Life Science, University of Chinese Academy of Sciences Beijing, China.

98

What RNA binding proteins regulate in neural development and why it should be through mRNAs?

Akihide Takeuchi, Kei Iida, Motoyasu Hosokawa, Masatoshi Hagiwara [10'+5']

Presenter affiliation: Graduate School of Medicine, Kyoto University, Kyoto, Japan.

99

THURSDAY, November 1—6:00 PM

COCKTAILS and BANQUET

SESSION 9 **FUNCTION AND MECHANISMS OF lncRNAs**

Chairpersons: **Joshua Mendell**, HHMI, University of Texas
Southwestern Medical Center, Dallas, Texas, USA
Xiaohua Shen, Tsinghua University, Beijing, China

Prediction of functional lncRNAs using UPA-seq

Shinichi Nakagawa [20'+10']

Presenter affiliation: Hokkaido University, Sapporo, Japan. 100

Chromatin recruitment of ribogenesis factor WDR43 by promoter-associated RNA in transcription and pluripotency regulation

Xiaohua Shen [20'+10']

Presenter affiliation: Tsinghua University, Beijing, China. 101

Myogenic lineage specifically expressed long intergenic non-coding RNA Linc-RAM regulates dynamic chromatin looping during muscle stem cell differentiation

Yong Zhang [10'+5']

Presenter affiliation: Peking Union Medical College, School of Basic Medicine, Beijing, China. 102

Coffee / Tea Break

The NORAD-PUMILIO axis in genome maintenance, mitochondrial homeostasis, and aging

Joshua T. Mendell [20'+10']

Presenter affiliation: Howard Hughes Medical Institute and UT Southwestern Medical Center, Dallas, Texas. 103

Promoter-associated long non-coding RNA, *Myoparr*, is a novel regulator of skeletal muscle cell differentiation and skeletal muscle atrophy

Keisuke Hitachi, Kunihiro Tsuchida [10'+5']

Presenter affiliation: Fujita Health University, Toyoake, Japan. 104

Risk SNP-mediated bifunctional regulatory element regulates lncRNA PCAT19 isoforms in prostate cancer progression

Junjie Tony Hua, Musaddeque Ahmed, Haiyang Guo, Sujun Chen, Jennifer Lu, Fraser Soares, Miranda Wang, Yi Liang, Housheng Hansen He [10'+5']

Presenter affiliation: University Health Network, Toronto, Canada; University of Toronto, Toronto, Canada.

105

Identification and characterization of lncRNA-DBD and its effects in diabetic bone metabolism

Zhekai Hu, Youcheng Yu, Shaohua Ge, Min Zhu, Qisheng Tu, Jake Chen [10'+5']

Presenter affiliation: Tufts University School of Dental Medicine, Boston, Massachusetts; Shanghai Jiaotong University, Shanghai, China.

106

Learning the “zip codes” from lncRNAs with machine learning models

Zheng Luo, Huang Wu, Fang Nan, Li Yang [10'+5']

Presenter affiliation: Shanghai Institutes for Biological Sciences, China.

107