PROGRAM

MONDAY, September 3—7:00 PM

SESSION 1 INTRINSIC DISORDER

Chairperson: **Yunlong Liu,** Indiana University School of Medicine, Indianapolis, Indiana, USA

Keith Dunker.
Presenter affiliation: Indiana University School of Medicine, Indianapolis, Indiana.

Predicting functional long non-coding RNAs validated by low throughput experiments
Bailing Zhou, Yuedong Yang, Jian Zhan, Xianghua Dou, Jihua Wang, Yaoqi Zhou.
Presenter affiliation: Griffith University, Southport, Australia 1

Ligand design targeting intrinsically disordered proteins
Luhua Lai.
Presenter affiliation: Peking University, Beijing, China. 2

GC content bias in nucleic acids encoding for intrinsically disordered proteins is reduced by codon selection
Christopher J. Oldfield, Zhenling Peng, Vladimir N. Uversky, Lukasz Kurgan.
Presenter affiliation: Virginia Commonwealth University, Richmond, Virginia. 3

TUESDAY, September 4—9:00 AM

SESSION 2 RNA I

Chairperson: **Steven Brenner,** University of California, Berkeley, Berkeley, California, USA

Identification of functional variants impacting splicing regulation
Yunlong Liu.
Presenter affiliation: Indiana University School of Medicine, Indianapolis, Indiana. 4

TUESDAY, September 4—2:00 PM

SESSION 3 POSTER SESSION

Evolution of an X-linked miRNA family predominately expressed in mammalian male germ cells
Fengjuan Zhang, Ying Zhang, Ligang Wu.
Presenter affiliation: Shanghai Institutes for Biological Sciences, Shanghai, China. 17

NONCODEV5—A comprehensive annotation database for long non-coding RNAs
ShuangSang Fang, Lili Zhang.
Presenter affiliation: University of Chinese Academy of Sciences, Beijing, China; CAS Key Laboratory of RNA Biology, Beijing, China. 18

A covalent link-based SpyCLIP platform for gel-free characterization of protein-RNA interactions
Ya Zhao, Yao Zhang, Yilan Teng, Kai Liu, Yanqing Liu, Weihua Li, Ligang Wu.
Presenter affiliation: Chinese Academy of Sciences, Shanghai, China; Fudan University, Shanghai, China. 19

TUESDAY, September 4—4:30 PM

Chinese Tea and Beer Tasting

TUESDAY, September 4—7:00 PM

SESSION 4 SYSTEMS

Chairperson: **Angela Brooks,** University of California, Santa Cruz, Santa Cruz, California, USA

Cell reprogramming
Owen Rackham, Jaber Firas, Yoshihide Hayashizaki, Jose Polo, Julian Gough.
Presenter affiliation: MRC, Cambridge, United Kingdom. 20

Systemic analysis of the human gut microbiome and beyond
Peer Bork.
Presenter affiliation: EMBL, Heidelberg, Germany. 21

Making intrinsic disorder prediction practical with quality assessment
Gang Hu, Zhonghua Wu, Christopher Oldfield, Chen Wang, Lukasz Kurgan.
Presenter affiliation: Virginia Commonwealth University, Richmond, Virginia. 22

WEDNESDAY, September 5—9:00 AM

SESSION 5 PRECISION MEDICINE

Chairperson: **Hanah Margalit,** Hebrew University of Jerusalem, Jerusalem, Israel

From genomics To therapeutics—Uncovering and manipulating the genomic circuitry of human disease
Manolis Kellis.
Presenter affiliation: Massachusetts Institute of Technology, Cambridge, Massachusetts; Broad Institute of MIT and Harvard, Cambridge, Massachusetts. 23

Informatics approaches to understand drug response
Russ B. Altman.
Presenter affiliation: Stanford University, Stanford, California. 24

Interpreting newborn genomes
Steven Brenner.
Presenter affiliation: University of California-Berkeley, Berkeley, California. 25

KEYNOTE SPEAKER

Using the phenome to build richer targets for gene discovery and translation
Nancy Cox.
Presenter affiliation: Vanderbilt University, Nashville, Tennessee. 26

WEDNESDAY, September 5—1:30 PM

Visit to Old Suzhou

WEDNESDAY, September 5—7:00 PM

SESSION 6 RNA II

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

Deciphering the function of single-nucleotide variants in the RNA
Esther Hsiao, Yiwei Sun, Jae Hoon Bahn, Boon Xin Tan, Xinshu Xiao.
Presenter affiliation: University of California, Los Angeles, Los Angeles, California. 27

Towards a molecular anatomy of the human body
Roderic Guigó.
Presenter affiliation: Centre for Genomic Regulation (CRG), Barcelona, Catalonia, Spain. 28

A-to-I RNA editing as a mechanism of gene regulation in Drosophila and humans
Jian Lu.
Presenter affiliation: Peking University, Beijing, China. 29

CIRCpedia v2—An updated database for comprehensive CircRNA annotation and expression comparison
Rui Dong, Xu-Kai Ma, Guo-Wei Li, Li Yang.
Presenter affiliation: Shanghai Institute of Nutrition and Health, Shanghai Institutes for Biological Sciences, Shanghai, China. 30

Virtual screening for nucleic acid aptamer
Qingtong Zhou, Liping Yang, Zhaofeng Luo, Suwen Zhao.
Presenter affiliation: iHuman Institute, Shanghai, China. 31

THURSDAY, September 6—9:00 AM

SESSION 7 GENETIC VARIATION AND OMICS

Chairperson: **Julian Gough,** MRC Laboratory of Molecular Biology, Cambridge, United Kingdom

Founder events and burden of recessive diseases in South Asia
Kumarasamy Thangaraj.
Presenter affiliation: CSIR-Centre for Cellular and Molecular Biology, Hyderabad, India. 32

Fine mapping and alleleic heterogeneity
Eleazar Eskin.
Presenter affiliation: University of California, Los Angeles, Los Angeles, California. 33

SVint, a light-weight tool for annotating structure variants located outside the coding genome
Jingqi Chen, Steven Brenner.
Presenter affiliation: University of California-Berkeley, Berkeley, California. 36

KEYNOTE SPEAKER

Recent progress in omics science by The International FANTOM Consortium
Yoshihide Hayashizaki.
Presenter affiliation: RIKEN, Wako, Saitama, Japan. 34

THURSDAY, September 6—2:00 PM

SESSION 8 STRUCTURE AND COMPUTATION

Chairperson: **Luhua Lai,** Peking University, Beijing, China

CATH functional families (FunFams)—Insights into impacts of genetic variations
Christine Orengo.
Presenter affiliation: University College London, London, United Kingdom. 35

Detecting the tipping points of biological processes by dynamic network biomarkers
Luonan Chen.
Presenter affiliation: Key Laboratory of Systems Biology, Shanghai Institutes for Biological Sciences, Chinese Academy of Sciences, Shanghai, China.

The repertoire of mutational signatures in human tumours from the ICGC/TCGA Pan-Cancer Analysis of Whole Genomes Network
Steven G. Rozen, Ludmil B. Alexandrov, Jaegil Kim, Nicholas Hardhvala, Mi Ni Huang, Avin Wei Tian Ng, Arnoud Boot, Kyle R. Covington, Dmitry A. Gordenin, Erik Bergstrom, Nuria Lopez-Bigas, Leszek J. Klimczak, Sandro Morganella, Radhakrishnan Sabarinahan, David A. Wheeler, Ville Mustonen, Gad Getz, Michael R. Stratton.
Presenter affiliation: Duke-NUS Medical School, Singapore. 37

Novel algorithms for spatial modeling of cellular interactions in the tumor microenvironment
Yiyi Yan, Svetomir S. Markovic, Alexey Leontovich.
Presenter affiliation: Mayo Clinic, Rochester, Minnesota. 38

Predictive modeling of primary resistance to androgen-deprivation in prostate cancer
Sukanya Panja, Sheida Hayati, Nusrat Epsi, James S. Parrott, Antonina Mitrofanova.
Presenter affiliation: Rutgers University, Newark, New Jersey; Rutgers University, New Brunswick, New Jersey. 39

THURSDAY, September 6—6:00 PM

COCKTAILS and BANQUET

FRIDAY, September 7—9:00 AM

SESSION 9 STRUCTURE AND SYSTEMS

Chairperson: **Keith Dunker,** Indiana University School of Medicine, Indianapolis, Indiana, USA

Self-association primes proteins for new function—The role of altered dynamic properties
Shoshana J. Wodak, Michael Garton, karolina A. Mikulska-Ruminska, Ivet Bahar.
Presenter affiliation: VIB-VUB, Brussels, Belgium. 40

Michal Linial.
Presenter affiliation: Hebrew University of Jerusalem, Jerusalem, Israel.