SESSION 1  OPENING SESSION

Chairpersons:  Samuel Waxman, Icahn School of Medicine at Mount Sinai, New York, New York, USA

KEYNOTE SPEAKERS

Zhu Chen  [35'+10']
Shanghai Institute of Hematology and National Research Center for Translational Medicine
Shanghai, China
Aging and cancer—Prevention and treatment of cancer in aged population  1

Ronald A. DePinho  [35'+10']
The University of Texas MD Anderson Cancer Center, Houston, Texas
Telomeres in cancer, aging, and degenerative disease  2

PANEL DISCUSSION:
Plan for Collaboration on Aging and Cancer Research

Panelists

Zhu Chen, Shanghai Institute of Hematology and National Research Center for Translational Medicine
Leroy Hood, Institute of Systems Biology
Ron DePinho, University of Texas MD Anderson Cancer Center
Pier Paolo Pandolfi, BIDMC, Harvard Medical School
James DeGregori, University of Colorado School of Medicine
Hugues de Thé, INSERM U944, Collège de France
KEYNOTE SPEAKER

Introduction by: Saijuan Chen, Shanghai Institute of Hematology and National Research Center for Translational Medicine

Leroy Hood [35'+10']
Institute of Systems Biology and Providence Health and Services, Seattle, Washington

Systems medicine, big data and scientific wellness are transforming healthcare

SESSION 2 MOLECULAR MECHANISMS OF AGING-ASSOCIATED DECLINE IN STEM CELL FUNCTION AND THEIR RELEVANCE TO CANCER

Chairpersons: Saijuan Chen, Shanghai Institute of Hematology and National Research Center for Translational Medicine, Shanghai, China
Hugues de Thé, Collège de France, Paris, France

The telomeric protein TRF2 induces cancer immunosuppression via modification of the glycocalyx
Julien Cherfils-Vicini, Mounir El Mai, Sabrina Pisano, Aaron Mendez-Bermudez, Shuaiyun Gao, Jing Ye, Eric Gilson [20'+10']
Presenter affiliation: Medical School University of Nice Côte d'Azur, Nice, France; Shanghai Jiao Tong University /Ruijin Hospital/CNRS/INSERM/University Côte d'Azur, Shanghai, China; University Hospital Nice, Nice, France.

Regulation of telomerase activity in human cells
Zhou Songyang [20'+10']
Presenter affiliation: Sun-Yat Sen University, Guangzhou, China.

Coffee Break
Cell identity loss in cancer—A source of new biomarkers and therapeutic targets
Sophie Rousseaux, Jin Wang, Jianqing Mi, Saadi Khochbin [20'+10']
Presenter affiliation: CNRS UMR 5309-INSERM U1209-Université Grenoble Alpes, Grenoble, France; Pôle Sino-Français des Sciences du Vivant et Genomique, Shanghai, China.

Using stem cell and gene editing techniques to study and treat aging-associated disorders
Guang-Hui Liu [20'+10']
Presenter affiliation: Institute of Biophysics, CAS, Beijing, China.

Efficiently rescue mutant p53 by a leading compound
Min Lu [10'+5']
Presenter affiliation: Shanghai Institute of Hematology, Shanghai, China.

Setd2 deficiency impairs hematopoietic stem cell self-renewal and causes malignant transformation
Yuan-Liang Zhang, Jie-Wen Sun, Yin-Yin Xie, Yan Zhou, Ping Liu, Jia-Chun Song, Ai-Ning Xu, Zhu Chen, Sai-Juan Chen, Xiao-Jian Sun, Qiu-Hua Huang [10'+5']
Presenter affiliation: Rui-Jin Hospital, Shanghai Jiao Tong University School of Medicine, Shanghai, China.

SESSION 3 CONTRIBUTIONS OF THE MICROENVIRONMENT IN AGING-ASSOCIATED TUMOR FORMATION

Chairpersons: Pier Paolo Pandolfi, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, Massachusetts, USA
Zhou Songyang, Sun-Yat Sen University, Guangzhou, China

Context-dependent oncogenic adaptation in the genesis of lung cancer in old age
Hannah A. Scarborough, Nathaniel Little, Catherine Pham-Danis, Linda K. Johnson, James DeGregori [20'+10']
Presenter affiliation: University of Colorado School of Medicine, Aurora, Colorado.
Gadd45a-mediated telomeric epigenetic response in stem cell aging
Zhenyu Ju [20' +10']
Presenter affiliation: Hangzhou Normal University, Hangzhou, China; Jinan University, Guangzhou, China.

Development of rhesus macaque models to investigate hematopoietic aging and clonal hematopoiesis
Cynthia E. Dunbar [20' +10']
Presenter affiliation: National Heart, Lung, and Blood Institute, NIH, Bethesda, Maryland.

Cancer stem-cells and tumor heterogeneity
Guilhem Bousquet, Christophe Leboeuf, Li Wang, Weili Zhao, Anne Janin [20' +10']
Presenter affiliation: U1165 INSERM/Université Paris 7, Paris, France.

SESSION 4  POSTER SESSION

Functional annotation of very long intergenic (vlinc) RNAs using systems biology approaches reveals their strong association with cancer
Huifen Cao, Fan Gao, Philipp Kapranov
Presenter affiliation: Huaqiao University School of Biomedical Sciences, Xiamen, China.

Pathophysiological roles of Gata2 L359V mutation in murine hematopoiesis
Yakai Fu, Mengmeng Pan, Bo Wu, Zhiwei Chen
Presenter affiliation: Ruijin hospital affiliated to Shanghai Jiao Tong University School of Medicine, Shanghai, China.

p53 mutation and DNA methylation in acute myeloid leukemia
Ying Liang, Yigang Tang, Huaxin Song, Haoyu Wang, Min Lu
Presenter affiliation: Shanghai Institute of Hematology, Shanghai, China.
A human chromosome 12 derived gene causes chronic lymphocytic leukemia in aged transgenic mice

Li Liu
Presenter affiliation: Institute of Basic Medical Sciences, Chinese Academy of Medical Sciences & School of Basic Medicine, PUMC, Beijing, China.

Combination effect of arsenic and Gefitinib on NSCLC Patient’s pleural effusions sample

Jianhua Mao, Yuansheng Zang, Lie Ma, Ru Zhang, Menghang Yang, Bing Li, Zhu Chen, Saijuan Chen, Xiaodong Xi
Presenter affiliation: State Key Laboratory of Medical Genomics, Shanghai Institute of Hematology, Ruijin Hospital, Shanghai Jiao Tong Universi, Shanghai, China.

Cancer driver mutations in the rectal mucosa of healthy people

Benedict Ng, Jenny Liu, Deborah Packham, Andrea Nunez, Robyn L. Ward, Jason W. Wong, Luke B. Hesson
Presenter affiliation: Prince of Wales Clinical School, Sydney, Australia.

An application of semiparametric structured additive model to cancer data

Vitus U. Nwatarali
Presenter affiliation: Nnamdi Azikiwe University, Abuja, Nigeria.

Rescue mutant NPM1, a protein whose mutation is deleterious specifically in elderly acute myeloid leukemia

Yigang Tang, Jiale Wu, Min Lu
Presenter affiliation: Shanghai Institute of Hematology, Shanghai, China.

Cocktail of chemical compounds robustly promoting cell reprogramming protects liver against acute injury

Yuewen Tang, Lin Cheng
Presenter affiliation: State Key Laboratory of Medical Genomics, Shanghai Institute of Hematology, Shanghai, China.

The guardian of the genome revisited—p53 down-regulates genes required for telomere maintenance, DNA repair and centromere structure

Eleonore Toufektchan, Sara Jaber, Iva Simeonova, Vincent Lejour, Genevieve Almouzni, Franck Toledo
Presenter affiliation: UMR 3244, Institut Curie, Paris, France.
Platelet-targeted gene therapy of hemophilia A using hematopoietic stem cells derived from genome-edited induced pluripotent stem cells
Dawei Wang, Guowei Zhang, Junjie Gu, Xiaohu Shao, Xiaohong Pan, Shuxian Yao, Ying Jin, Zhu Chen, Saijuan Chen
Presenter affiliation: State Key Laboratory of Medical Genomics, Shanghai Institute of Hematology, Shanghai, China.

Induction of the oxidative stressed-mediated the G0/G1 arrest and apoptosis by the Rhus typhina fruits in HT 29 cells
Lan Wang, Minglu Xu, Jianhe Hu
Presenter affiliation: Henan Normal University, Xinxiang, China.

CRISPR-guided genome editing corrects murine factor IX gene in a mouse model
Qiang Wang, Lin Zhang, Zhu Chen, Sai-Juan Chen
Presenter affiliation: Rui Jin Hospital Affiliated to Shanghai Jiao Tong University School of Medicine, Shanghai, China.

Effective treatment of relapsed/refractory multiple myeloma including extramedullary involvement by BCMA-specific chimeric antigen receptor-modified T cells
Jian-Qing Mi, Xiaohu (Frank) Fan, Jie Xu, Yuanfang Liu, Yan Zhuang, Shuangshuang Yang, Wu Zhang, Bin Chen, Yueying Wang, Xiangqin Weng, Junmin Li, Weijun Fu, Hua Jiang, Li Zhu, Zhu Chen, Sai-Juan Chen, Jian Hou
Presenter affiliation: Shanghai Institute of Hematology, Rui Jin Hospital Affiliated to Shanghai Jiao Tong University School of Medicine, Shanghai, China.

An epigenetic combination regimen on 3 elder myelodysplastic syndrome patients
Jiale Wu, Haimin Sun, Ni Yan, Ying Liang, Huaxin Song, Min Lu, Chunkang Chang, Sujiang Zhang
Presenter affiliation: Rui Jin Hospital, Shanghai Jiao Tong University School of Medicine, Shanghai, China.

SIRT5 regulates succinylation and activity of peroxisomal ACOX1 to enhance cellular antioxidant defense
Xiu-Fei Chen, Meng-Xin Tian, Wei-Ren Liu, Ying-Hong Shi, Yu-Zhen Zhao, Yi Yang, Yue Xiong, Kun-Liang Guan, Dan Ye
Presenter affiliation: Shanghai Medical College, Fudan University, Shanghai, China.
Pharmacological modulation of the telomeric protein TRF2 at the cross-road of cancer and ageing treatment
Eric Gilson, Jing Ye
Presenter affiliation: Shanghai Ruijin Hospital, Shanghai Jiaotong University School of Medicine, Shanghai, China; Institut for Research on Cancer and Aging, Nice (IRCAN), Nice University, CNRS UMR7284/INSERM U1081, Faculty of Medicine, Nice, France.

AAV-delivered rat FVIII LC with human FVIII HC for HA gene therapy
Wei Zhang, Jianhua Mao, Guowei Zhang, Xiaodong Xi, Saijuan Chen
Presenter affiliation: State Key Laboratory of Medical Genomics, Shanghai Institute of Hematology, Ruijin Hospital, Shanghai Jiao Tong University, Shanghai, China.

Modified glycolysis and N-linked glycosylation acting as therapeutic targets in t(8;21) acute myeloid leukemia
Weina Zhang, Songfang Wu, Ming Zhang, Yueying Wang, Saijuan Chen
Presenter affiliation: Rui Jin Hospital, Shanghai Jiao Tong University School of Medicine, Shanghai, China.

SUNDAY, November 12—7:00 PM

SESSION 5 EPIGENETIC MECHANISM IN AGING AND CANCER

Chairpersons: Ruibao Ren, Shanghai Jiao-Tong University School of Medicine, Shanghai, China
 Saadi Khochbin, CNRS/INSERM, Grenoble, France

KEYNOTE SPEAKER

Robert G. Roeder [35'+10']
The Rockefeller University, New York, New York

Mechanistic studies of transcriptional regulation in leukemia and lymphoma

Origins of human MLL leukemia and their impacts on treatment responses
Chi Wai Eric So [20'+10']
Presenter affiliation: King's College London, London, United Kingdom.
Inhibition of the PAH2 domain of SIN3 sensitizes TNBC to retinoic acid, alters the microenvironment and inhibits metastasis
Samuel Waxman  [20'+10']
Presenter affiliation: Icahn School of Medicine at Mount Sinai, New York, New York.

Coffee Break

NSD2 and blood malignancies of the young and old
Jonathan D. Licht  [20'+10']
Presenter affiliation: The University of Florida Cancer Center, Gainesville, Florida.

TET protein-mediated DNA epigenetics in acute myeloid leukemia—Function, mechanism and therapeutics
Jianjun Chen  [20'+10']
Presenter affiliation: University of Cincinnati, Cincinnati, Ohio; The Beckman Research Institute of City of Hope, Monrovia, California.

MONDAY, November 13—9:00 AM

SESSION 6 AGING-ASSOCIATED CHANGES IN METABOLISM IN CANCER

Chairpersons: Eric Gilson, University of Nice, France
Jian-jun Chen, University of Cincinnati, Cincinnati, Ohio, USA

KEYNOTE SPEAKER
Pier Paolo Pandolfi  [35'+10']
Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, Massachusetts.

The non-coding RNA revolution in cancer pathogenesis and therapy 38

Transcriptional regulation of p16INK4A
Yue Xiong  [20'+10']
Presenter affiliation: University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.
PML is a ROS sensor activating p53 upon oxidative stress
Hugues de Thé [20'+10']
Presenter affiliation: INSERM U944, Paris, France; Collège de France, Paris, France.

Coffee Break

Epigenetic heterogeneity in young and old AML patients
Ari Melnick, Sheng Li, Chris Mason, Ross Levine, Francine Garrett-Bakelman [20'+10']
Presenter affiliation: Weill Cornell Medical College, New York, New York.

Development and application of single-cell RNA-seq analysis pipeline
Yuting Dai, Jinyan Huang [10'+5']
Presenter affiliation: State Key Laboratory of Medical Genomics, Shanghai Institute of Hematology, Rui Jin Hospital, Shanghai, China.

RING tetramerization is required for nuclear body biogenesis and PML auto-sumoylation
Pengran Wang, Guoyu Meng [10'+5']
Presenter affiliation: Shanghai Jiaotong University, Shanghai, China.

MONDAY, November 13—2:00 PM

SESSION 7  CANCER INTERVENTION BASED ON AGING MECHANISM

Chairpersons: Jonathan Licht, University of Florida Cancer Center, Gainesville, Florida, USA
Yue Xiong, University of North Carolina at Chapel Hill, North Carolina, USA

Novel antibody-based therapies for cancers including aging-related cancers
Hua Yu, Andreas Herrmann [20'+10']
Presenter affiliation: City of Hope, Duarte, California.

Biomarker based personalized risk assessment and early detection of common cancers associated with aging
Samir Hanash [20'+10']
Presenter affiliation: MD Anderson Cancer Center, Houston, Texas.
CAR-T therapy for multiple myeloma
Frank Fan  [20'+10']
Presenter affiliation: Nanjing Legend Biotech

Coffee Break

A story from bench to bedside, retinoids meet epigenetics to fight myeloid neoplasia
Arthur Zelent  [20'+10']
Presenter affiliation: University of Miami Health System, Miami, Florida.

Improving the effectiveness of cancer therapy using inhibitors of p38 MAPK and MK-2 signaling pathways
Dauren Alimbetov, Amy Brook, Terence Davis, Bauyrzhan Umbayev, Abdul-Razak Masoud, Andrey Tsoy, Sholpan Askarova, David Kipling [10'+5']
Presenter affiliation: National Laboratory Astana, Astana, Kazakhstan. 46

Inhibiting aging-associated inflammation can prevent aging-associated decline in hematopoietic stem cell function and leukemogenesis
Kelly Higa, Curtis Henry, Courtney Fleenor, Annika Gustafson, Vadym Zaberezhnyy, Eric Pietras, Charles Dinarello, James DeGregori [10'+5']
Presenter affiliation: University of Colorado Anschutz Medical Campus, Aurora, Colorado. 47

MONDAY, November 13—6:00 PM

COCKTAILS and BANQUET