

Abstracts of papers presented
at the 2026 Cold Spring Harbor Asia Conference

GENOME INTEGRITY & CANCER

March 23–March 27, 2026

Arranged by

Stephen West, *Francis Crick Institute*
Kara Bernstein, *University of Pennsylvania*
Kyungjae Myung, *Institute for Basic Science*
Jian Yuan, *Tongji University*
Binghui Shen, *City of Hope*



Cold Spring Harbor Conferences Asia
Cold Spring Harbor Laboratory



GENOME INTEGRITY AND CANCER
Monday, March 23 – Friday, March 27, 2026

Monday	7:00 pm	1 Keynote Session
Monday	8:30 pm	2 Cutting Edge
Tuesday	9:00 am	3 DNA Replication Machinery and Stresses
Tuesday	1:30 pm	4 Trailblazers
Tuesday	3:00 pm	Poster Session
Tuesday	7:00 pm	5 Genome Integrity and Mutagenesis
Wednesday	9:00 am	6 Chromatin Modifications in Response to Damage
Wednesday	1:30 pm	<i>Visit to Old Suzhou*</i>
Wednesday	7:00 pm	7 DNA Damage Response and Synthetic Lethality
Thursday	9:00 am	8 Targeting DNA Replication Stress in Cancer Therapy
Thursday	2:00 pm	9 Systems Biology of DNA Repair
Thursday	6:00 pm	<i>Cocktails and Banquet</i>
Friday	9:00 am	Departure

Oral presentation sessions are located in the CSHA Auditorium

Poster session is in the Lake Front Hall.

Cocktail social hour is held outside in the Suz Garden.

Old Suzhou visits depart from the CSHA lobby

**optional tour requires additional fee.*

Meal locations and times are as follows:

Lunch: Main Cafeteria 12:00pm - 1:30pm

Dinner: Main Cafeteria 6:00pm - 7:30pm

Banquet: Suz Garden 6:00pm

More information will be available at CSHA office.

(Map at the end of this abstract book)

PROGRAM

MONDAY, March 23—7:00 PM

SESSION 1 KEYNOTE SESSION

Introduction by: Stephen West, The Francis Crick Institute, London, United Kingdom

Properties of formaldehyde-DNA adducts define a new class of mutagen

KJ Patel, Felix Dingler, Christopher Millington [35'+10']

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

1

Introduction by: Kara Bernstein, University of Pennsylvania, Philadelphia, Pennsylvania, USA

Ku in primates—From DNA repair to RNA metabolism and Immunity

Shan Zha [35'+10']

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

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MONDAY, March 23—8:30 PM

SESSION 2 CUTTING EDGE

Chairperson: Zhongsheng You, Chinese Institutes for Medical Research (CIMR), Beijing, China

Reciprocal regulation of TRPV2 and STING integrates genome maintenance with immune immunity

Zhongsheng You [15'+5']

Presenter affiliation: Chinese Institutes for Medical Research (CIMR), Beijing, China.

3

Panorama of chromosomal instability in lung cancer

Lixing Yang [15'+5']

Presenter affiliation: University of Chicago, Chicago, Illinois.

4

Enhanced formaldehyde clearance ameliorates differentiation-induced genotoxicity in fanconi anemia mutant cells

Jinghang Wu, Fan Yang, Xiaotong Du, Siqian Shi, Landing Li, Zhilin Wang, Jiayi Wang, Can Yi, Yuejia Duan, Yajing Xiao, Sirui Cheng, Xianghuijun Yin, Xinxin Wang, Jiangping Jin, Shixian Lin, Liangyu Zheng, Lei Li [15'+5']

Presenter affiliation: Zhejiang University, Hangzhou, China.

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TUESDAY, March 24—9:00 AM

SESSION 3 DNA REPLICATION MACHINERY AND STRESSES

Chairpersons: **Lee Zhou**, Duke University, Durham, North Carolina
Feng Li, The First Affiliated Hospital of Sun Yat-Sen University, Guangzhou, China

Targeting replication stress in cancer therapy

Lee Zou [20'+5"]

Presenter affiliation: Duke University, Durham, North Carolina.

6

Redox-driven ADAR1 activation promotes Okazaki fragment maturation and DNA replication integrity

Bin Chen, Guangchao Sun, Jake A. Kloeber, Huaping Xiao, Yaobin Ouyang, Fei Zhao, Min Deng, Robert W. Mutter, Zhenkun Lou [20'+5"]

Presenter affiliation: Mayo Clinic, Rochester, Minnesota.

7

Suppression of transcription-replication conflicts by concerted RNA methylation and MutL α recognition of R-loops

Arijit Ghosh, Xiaojuan Ran, Fengqi Zhang, Boya Gao, Lee Zou, Li Lan.

Presenter affiliation: Duke University, Durham, North Carolina.

8

Divergent disease mechanisms arising from MCM10 dysfunction

Ryan M. Baxley, Liangjun Wang, Kendall S. Bromley, David A. Largaespada, Bruno Reversade, Eric A. Hendrickson, Anja K. Bielinsky [20'+5"]

Presenter affiliation: University of Virginia, Charlottesville, Virginia.

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Break

Novel MutLα functions in genome maintenance and cancer therapy

Guo-Min Li [20'+5"]

Presenter affiliation: Chinese Institutes for Medical Research, Beijing, China.

10

RNA exonuclease REXO4 resolves m6A-marked R-loops and suppresses anti-tumor immunity

Lei Shi, Jieyou Zhang, Kaiwen Bao [20'+5"]

Presenter affiliation: Tianjin Medical University, Tianjin, China.

11

Cooperation between innate immunity and genome surveillance pathways—Interferon stimulatory DNA activates the DNA damage signaling through DNA-PK sensing

Samira Kemih, Lorena Rejón-Franco, Roger J. Eloiflin, Nadine Laguette, Hervé Técher [15'+5']

Presenter affiliation: Université Côte d'Azur, CNRS, INSERM., Nice, France.

12

MCM8-9 helicase activity prevents premature ovarian insufficiency by protecting primordial germ cell development

Lin-Yu Lu [10'+5']

Presenter affiliation: Zhejiang University, Hangzhou, China.

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TUESDAY, March 24—1:30 PM

SESSION 4 TRAILBLAZERS

Chairperson: **Hailin Wang**, Research Center For Eco-environmental Sciences, CAS, Beijing, China

Assembly and recombination activity of RecA/Rad51 ATPase family proteins

Hailin Wang [15'+5']

Presenter affiliation: Research Center for Eco-Environmental Sciences, Beijing, China.

14

REXO4 condensates promote irradiation-induced poly(ADP-ribose)ation and tumor radioresistance

Wan-Wen Zhao, Yun-Long Wang, Xin-Juan Fan, Xiang-Bo Wan [15'+5']

Presenter affiliation: Zhengzhou University, The First Affiliated Hospital, Zhengzhou, China.

15

Genomic instability and clonal evolution in initiation and malignant transformation of multiple myeloma

Jiaojiao Guo, Xun Chen, Guoqian Liu, Yi Qiu, Duanzhi Wu, Wen Zhou [15'+5']

Presenter affiliation: Cancer Research Institute, Changsha, China.

16

SMAD4 orchestrates chromatin accessibility and defines PARP inhibitor vulnerability in pancreatic cancer

Wen-Ping Lin, Xiao-Xia Cai, Yi-Yang Zhang, Wei Wei, Rong-Ping Guo, Muyan Cai [15'+5']

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

17

Deciphering the molecular blueprint of NHEJ-mediated DNA repair

Yuan He [20'+5"]

Presenter affiliation: Johns Hopkins University, Baltimore, Maryland.

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TUESDAY, March 24—3:00 PM

POSTER SESSION

RSBN1 restricts break-induced replication in alternative lengthening of telomeres (ALT) by regulating H4K20 methylation

Nabeela Bilal, Sangin Kim, Sanim Rahman, Su Hyung Park, Jaesun Ra, Nalae Kang, Tobias Friedrich, Namwoo Kim, Robert B. Faryabi, Roger A. Greenberg, Kyoo-young Lee, Kyungjae Myung

Presenter affiliation: Institute for Basic Science, Ulsan, South Korea; Ulsan National Institute of Science and Technology, Ulsan, South Korea.

19

A MYCN–FBXL12–FANCD2 Axis Maintains Replication Stress Tolerance in High-Risk Neuroblastoma

Andr  Brunner, Jinjiang Chou, Aljona Maljukova, Alessandro Bordonaro, Krzysztof Dygon, Qiuzhen Li, Juha Rantala, Glenn Marschall, John I. Johnsen, Malin Wickstr m, Olle Sangfelt

Presenter affiliation: Karolinska Institutet, Stockholm, Sweden.

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- The EHMT2-MBLAC2 axis suppresses ribosomal DNA transcription in response to nucleolar DNA damage**
 Chenyue Wang, Qiutian Lu, Lianbao Cao, Simeng Zeng, Zihan Gao, Yinglong Yang, Xiaowen Liu, Shanshan Gao, Chao Dong
 Presenter affiliation: Shandong University, Jinan, China. 21
- The purine initiation preference of terminal RNA primers maintains efficient telomere replication**
Lijuan Fu, Sai Zou, Tiantian Ye, Jin-Qiu Zhou
 Presenter affiliation: State Key Laboratory of RNA Innovation-Science and Engineering, CAS Center for Excellence in Molecular Cell Science, Shanghai, China; School of Life Science and Technology, Shanghai, China. 22
- RNA m6A modification—A novel regulator of trinucleotide repeats related neurodegenerative disease**
Jinzhen Guo, Ruiyuan Zhang, Changwei Changwei, Guo-Min Li
 Presenter affiliation: Chinese Institutes for Medical Research, Beijing, China. 23
- Identifying innate immune response induced by a small molecule, UNI88**
Soomin Heo, Yuheon Chung, Kyungjae Myung
 Presenter affiliation: Institute for Basic Science, Ulsan, South Korea; Ulsan National Institute of Science and Technology, Ulsan, South Korea. 24
- The role of translesion synthesis (TLS) polymerases in temozolomide resistance**
 Hyeyeon Won, Soyoung Park, Ratih Khoirunnisa, David M. Samuel, Sandar Kyaw, Hajoong Park, Eun A Lee, Semin Lee, Anton Gartner, Dmitri Ivanov
 Presenter affiliation: Institute for Basic Science, Ulsan, South Korea. 25
- Chemotherapy-induced replication stress accelerates erythroid commitment but impairs terminal maturation**
Juan P. Jauregui-Lozano, Judith Zaugg
 Presenter affiliation: University of Basel, Basel, Switzerland. 26
- Dynamic control of telomere G-quadruplex by BRCA2 and its disruption in ovarian cancer**
So Young Joo, Hwisoo Kim, Jennifer J. Lee, Jubi Heo, Sun-Young Kong, Hyunsook Lee
 Presenter affiliation: Seoul National University, Seoul, South Korea. 27

- TERRA as a dual biomarker for aging and cancer—A novel T-LAMP detection method**
Sungwon Jung, Minjun Park, Sanghyo Park, Jaehyung Park, Hyunsook Lee
 Presenter affiliation: Seoul National University, Seoul, South Korea. 28
- PIKfyve and PIP5K1C inhibition promotes IP6-mediated Cul4A-dependent degradation of homologous recombination proteins**
 Seon-gyeong Lee, Yuri Seo, Seula Jeong, Sukyeong Kong, Yuheon Chung, Minyoung Kim, Joo-Yong Lee, Kyungjae Myung
 Presenter affiliation: Institute for Basic Science (IBS), Ulsan, South Korea; UNIST, Ulsan, South Korea. 29
- Subclone-level analysis of FLOT resistance in gastric cancer using patient-derived organoids**
 Vivian Mittné, Yeongjun Kim, Beatrix Jahnke, Franziska Baenke, Heetak Lee, Daniel E. Stange
 Presenter affiliation: Institute for Basic Science (IBS), Daejeon, South Korea. 30
- A Domain-focused screen identifies MEAF6 as a vulnerability in acute myeloid leukemia**
 Janice M. Reynaga, Maria F. Carrera Rodriguez, Austin C. King, Ricardo Petroni, M A. Blanco
 Presenter affiliation: School of Veterinary Medicine, University of Pennsylvania, Philadelphia, Pennsylvania. 31
- Exploiting epigenetic vulnerabilities to induce replication catastrophe in cancer**
Sung-Bau Lee
 Presenter affiliation: Taipei Medical University, Taipei, Taiwan. 32
- The CHAMP1 complex safeguards genome stability by coupling heterochromatin-mediated repair to replication stress tolerance**
Feng Li, Alan D. D'Andrea [10¹+5¹]
 Presenter affiliation: The First Affiliated Hospital of Sun Yat-Sen University, Guangzhou, China; Dana-Farber Cancer Institute, Harvard Medical School, Boston, Massachusetts. 33
- Metabolic regulation of cancer development and resistance to EGFR-TKIs by EGFR lactylation**
Rui Li, Jian Yuan
 Presenter affiliation: Tongji University, Shanghai, China. 34

- Mismatch repair protein MLH1 controls testis development by regulating the Hippo-YAP signaling pathway**
Xueying Li, Jiajun Yang, Guo-Min Li
 Presenter affiliation: Chinese Institutes for Medical Research, Beijing, China. 35
- Real-time discovery of cancer antigen-specific T cell receptors in patients reveals stable yet diverse T cell receptor repertoire with variable functional states of T cells**
 Wenjing Zhang, Ying Li, Yiyi Yan, Grotz E. Travis, Hao Xie, Harry H. Yoon, Robert R. McWilliams, Yi Lin, Wen Wee Ma, Alexander Revzin, Tarios S. Bekaii-Saab, Haidong Dong, Mojun Zhu
 Presenter affiliation: Mayo Clinic, Jacksonville, Florida. 36
- UHRF1-mediated PAXX ubiquitination enhances DNA repair and cancer resistance**
 Zhiwen Deng, Qian Zhu, Xijun Sun, Wenbo Ding, Wei-guo Zhu, Xiangyu Liu
 Presenter affiliation: Shenzhen University, Shenzhen, China. 37
- CK2 mediated H2A.Z phosphorylation specifically regulates origin recognition during G1 phase**
 Yiqi Yang, Xiaoting Zhang, Minyu Chen, Jinwen Yang, Ruixin Fang, Wenchang Gao, Zengqi Wen, Haizhen Long
 Presenter affiliation: Shenzhen Bay Laboratory, Shenzhen, China. 38
- The role of ATAD5 in the suppression of single-stranded DNA gaps**
 Namwoo Kim, Daniyar Otarbayev, Jae Sun Ra, Kyungjae Myung
 Presenter affiliation: Institute for Basic Science, Ulsan, South Korea; Ulsan National Institute of Science and Technology, Ulsan, South Korea. 39
- Cancer histone H2A.Z missense mutations disrupt function through distinct local and allosteric effects**
Jie Shu, Shuxiang Li, Anna R. Panchenko, Maria J. Aristizabal
 Presenter affiliation: Queen's University, Kingston, Canada. 40
- Comprehensive characterization of extrachromosomal DNA landscape in cervical cancer reveals subtype-specific distribution and therapeutic vulnerabilities**
Leijing Wang
 Presenter affiliation: The Central Hospital of Wuhan, Wuhan, China. 41

- A homozygous MCM10 F519S mutation causes a developmental disorder with upper limb amelia**
Liangjun Wang, Ryan M. Baxley, Emmanuelle Szenker-Rav, Mona Anglan, Rasha El Hossini, David A. Largaespada, Eric A. Hendrickson, Bruno Reversade, Anja-Katrin Bielinsky
 Presenter affiliation: University of Minnesota, Minneapolis, Minnesota. 42
- LUBAC-mediated linear ubiquitination governs EXO1-dependent DNA repair to safeguard genome integrity**
 Lei Li, Xinshu Wang, Fei Zhao, Yunhui Li, Jian Yuan
 Presenter affiliation: State Key Laboratory of Cardiovascular Diseases and Medical Innovation Center, Shanghai, China. 43
- Mitotic single-stranded DNA suppression by DDIAS**
Yibo Xue, Faisal B. Rashed, Daniel Y. Mao, Kento T. Abe, Zhen-Yuan Lin, Dheva Setiaputra, Lisa Hoeg, Clara Bonnet, Frank Sicheri, Anne-Claude Gingras, Daniel Durocher
 Presenter affiliation: Mount Sinai Hospital, Toronto, Canada. 44
- Aberrant accumulation of R-Loops promotes genomic instability in EGFR-TKI-Resistant lung cancer cells and vulnerability to ATR-
 Chk1 inhibitors**
Lujie Yang, Xinming Jing, Yu Xu, Mengxia Li
 Presenter affiliation: Army Medical University, Chongqing, China. 45
- RB lactylation bridges metabolism and cell cycle control for cancer intervention**
Xiaoning Yang, Jian Yuan
 Presenter affiliation: Tongji University, Shanghai, China. 46
- The complete telomere-to-telomere sequence of a mouse genome**
 Junli Liu, Qilin Li, Xiaochun Yu
 Presenter affiliation: Westlake University, Hangzhou, China. 47
- cFOOT-seq—A single-cell and single-molecular method for investigating chromatin landscape including TF footprint**
 Heng Wang, Ang Wu, Mengchen Yang, Di Zhou, Xiaoyu Liu, Jiejun Shi, Shaorong Gao, Jia-min Zhang
 Presenter affiliation: Tongji University, Shanghai, China. 48
- ATRX and TOP2B cooperates for replication fork stability and DNA damage response through G-quadruplex regulation**
Jing Zhang
 Presenter affiliation: Tongji University, Shanghai, China. 49

Targeting the HSP20-PARP1 axis reprograms DNA repair
Yi Zhao, Sheon Samji, Elaine Brown, Will Fuller, George S. Baillie,
Yuan Yan sin
Presenter affiliation: University of Glasgow, Glasgow, United Kingdom. 50

Deoxycytidylate deaminase mediates DNA repair to promote survival in FLT3-ITD leukemia
Dan Zhou, Xue-jing Li, Jiang-han Dong
Presenter affiliation: Fudan University, Shanghai, China. 51

Identification of a novel Y269 phosphorylation site implicates structural regulation of APE1 activity
Chenxy Zhu
Presenter affiliation: Peking University, Beijing, China. 52

A CRISPR/Cas9-induced blunt-end telomere system in *S. pombe* reveals RNase H2-dependent RNA primer removal at the terminal Okazaki fragment of lagging telomeres
Sai Zou, Tiantian Ye, Lijuan Fu, Jin-Qiu Zhou
Presenter affiliation: State Key Laboratory of RNA Innovation-Science and Engineering, CAS Center for Excellence in Molecular Cell Science, Shanghai, China. 53

DNA replication stress-induced transcriptome of human Burkitt's lymphoma identifies MBD1 as a novel suppressor of BCL6 rearrangements in germinal center derived B-lymphomagenesis
Santosh K Gothwal, Kyoko Oichai, Jacqueline H Barlow
Presenter affiliation: Institute for Basic Science, Center for Genomic Integrity, Ulsan, South Korea. 93

TUESDAY, March 24—7:00 PM

SESSION 5 GENOME INTEGRITY AND MUTAGENESIS

Chairpersons: **Petr Cejka**, Institute for Research in Biomedicine, Bellinzona, Switzerland
Jing Zhang, Tongji University, Shanghai, China

Mechanism of trinucleotide repeat expansion by MutS β -MutL γ and contraction by FAN1
Petr Cejka, Issam Senoussi, Velentina Mengoli [20'+5"]
Presenter affiliation: Institute for Research in Biomedicine, Bellinzona, Switzerland. 54

High-throughput mapping of 6,888 RAD51D variants identifies distinct biochemical functions needed for homologous recombination

Kristie E. Darrah, Shelby L. Hemker, Yashpal Rawal, Noah J. Goff, Phoebe Parker, Gayatri Ganesan, Caleb M. Stratton, Katherine Oppenheimer, Ella Roberts, Elena Glick, Nicole Banks, Arjun Kumar, Katherine Nathanson, Susan M. Domchek, Shaun K. Olsen, Patrick Sung, Jacob O. Kitzman, [Kara A. Bernstein](#) [20'+5"]

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

55

Identification of genetic vulnerabilities in aneuploid human cells

Salar Ahmad, [Ian D. Hickson](#) [20'+5"]

Presenter affiliation: Center for Chromosome Stability, University of Copenhagen, Denmark.

56

Roles of MMEJ and BIR in repairing broken replication forks in mammalian cells

Shibo Li, Yuqin Zhao, Youhang Li, Sameer Shah, Yanmeng Shi, Shania Bu, [Xiaohua Wu](#) [20'+5"]

Presenter affiliation: The Scripps Research Institute, La Jolla, California.

57

DNA replication errors drive genome-wide small inverted triplication dynamics

Yi Lei, Yu Zhou, Haitao Sun, Hang Yuan, Xinyu Pei, Jessica D. Hess, Yao Yan, Zunsong Hu, Mian Zhou, Zhaohui Gu, Li Zheng, Xiwei Wu, [Binghui Shen](#) [20'+5"]

Presenter affiliation: City of Hope, Duarte, California.

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The Shu complex regulates oligonucleotide-mediated, nickase-initiated gene editing in human cells

[Eric A. Hendrickson](#), Brian L. Ruis, Anja-Katrin Bielinsky [10'+5']

Presenter affiliation: U. of Virginia, Charlottesville, Virginia.

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SESSION 6 CHROMATIN MODIFICATIONS IN RESPONSE TO DAMAGE

Chairpersons: **Hyunsook Lee**, Seoul National University, Seoul, South Korea
Jia-min Zhang, Tongji University, Shanghai, China

FET proteins and PARYlation-dependent condensates promote replication fork reversal and genome stability

Celeste Giansanti, Jack C. Schultz, Jessica Jackson, Alessandro Vindigni, David Cortez [20'+5"]

Presenter affiliation: Vanderbilt University, Nashville, Tennessee. 60

Deacetylated PCBP1 licenses PARP1 activity for DNA damage repair

Yuxin Shu, Wei-Guo Zhu [20'+5"]

Presenter affiliation: Shenzhen University Medical School, Shenzhen, China. 61

Coordination of DNA replication with nucleosome assembly

Qing Li [20'+5"]

Presenter affiliation: Peking University, Beijing, China. 62

Nuclear actin filamentation drives telomeric phase separation in alternative lengthening of telomeres

Hyunsook Lee, Hyungmin Kim, So Young Joo, Sungwon Jung [20'+5"]

Presenter affiliation: Seoul National University, Seoul, South Korea. 63

Break

UFMylation serves as a central guardian of genome homeostasis

Xingzhi Xu [20'+5"]

Presenter affiliation: Shenzhen University, Shenzhen, China. 64

Intercellular DNA transfer mediated by migrasomes propagates genome instability

Yihan Tang, Guojun Ye, Chunyu Song, Yide He, Lin Deng [10'+5"]

Presenter affiliation: Shenzhen Bay Laboratory, Shenzhen, China. 65

Microprotein RSMC enhances Sororin's function in sister chromatid cohesion

Meiqian Jiang, Jiixin Zhang, Huiqiang Lou, Wenya Hou [10'+5']

Presenter affiliation: Shenzhen University, Shenzhen, China.

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Epigenetic factor condensate regulates MYC activity

Yulong Qiang, Jiachen Fan, Feng Li [10'+5']

Presenter affiliation: Wuhan University, Wuhan, China.

67

PARG enforces p21 degradation via dePARylation to promote gastric cancer progression

Yangchan Hu, Qimei Bao, Xiangdong Cheng, Ji Jing, Zu Ye [10'+5']

Presenter affiliation: Zhejiang Cancer Hospital, Hangzhou, China.

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WEDNESDAY, March 25—1:30 PM

Visit to Old Suzhou

WEDNESDAY, March 25—7:00 PM

SESSION 7 DNA DAMAGE RESPONSE AND SYNTHETIC LETHALITY

Chairpersons: **Ulrich Rass**, University of Sussex, Brighton, United Kingdom
Chao Dong, Shandong University, Jinan, China

DNA2 enables growth by restricting homologous recombination-restarted replication (HoRRer) with implications for cancer

Jessica R. Hudson, Rowin Appanah, David Jones, Kathryn Davidson, Alice M. Budden, Alina Vaitisankova, Kok-Lung Chan, Keith W. Caldecott, Antony M. Carr, Ulrich Rass [20'+5"]

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

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Metabolic mediated homologous recombination regulation contributes to the chemosensitivity in cancer

Zhe Wang, Yuping Chen, Jian Yuan [20'+5"]

Presenter affiliation: Tongji University School of Medicine, Shanghai, China.

70

Targeting IP₆ signaling to destabilize homologous recombination proteins to overcome PARP inhibitor resistance

Kyungjae Myung [20'+5']

Presenter affiliation: Institute for Basic Science, Ulsan, South Korea; Ulsan National Institute of Science and Technology, Ulsan, South Korea.

71

The expanded roles of homologous recombination proteins in genome stability

Vincenzo Costanzo [20'+5"]

Presenter affiliation: IFOM-ETS, Milan, Italy; University of Milan, Milan, Italy.

72

Characterizing the functions of Ku70 C-terminal tail in DNA damage response and beyond

Yuan Wang, Micheal Czap, Hailey Kim, Paul Masaka, Huimei Lu, Zhiyuan Shen [10'+5']

Presenter affiliation: Rutgers Cancer Institute, New Brunswick, New Jersey.

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Complex recombination phenotyping at scale with single-cell strand-specific sequencing

Peter Chovanec, Shiyang He, Trevor Ridgley, Yi Yin [15'+5']

Presenter affiliation: University of California, Los Angeles, Los Angeles, California.

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THURSDAY, March 26—9:00 AM

SESSION 8 TARGETING DNA REPLICATION STRESS IN CANCER THERAPY

Chairpersons: **Dipanjan Chowdhury**, Harvard Medical School, Boston, Massachusetts, USA
Ting Liu, Zhejiang University School of Medicine, Hangzhou, China

DYNLL1 regulates MRE11 distribution to safeguard replication in normal cells

Yizhou J. He, Kaimeng Huang, Rui Zhou, Jiahui Liu, Marie-Christine Caron, Haiqing Fu, Xiaoju Hu, Antara Biswas, Aleem Syed, Chunyu Yang, Sarah Collins, Ke Cong, Shrabasti Roychoudhury, Gaëlle Legube, Jean-Yves Masson, Mirit I. Aladjem, Subhajyoti De, Dipanjan Chowdhury [20'+5"]

Presenter affiliation: Harvard Medical School, Boston, Massachusetts.

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Therapeutic vulnerabilities of medulloblastomas with homologous recombination deficiency <u>Zhiyuan Shen</u> , Huimei Lu, Yuan Wang [20'+5"] Presenter affiliation: Rutgers Cancer Institute, New Brunswick, New Jersey.	76
Regulation of replication fork stalling, protection, and recovery <u>Ting Liu</u> [20'+5"] Presenter affiliation: Zhejiang University School of Medicine, Hangzhou, China.	77
Targeting synthetic lethality in BRCA2-deficient cancers—A multi-layered strategy Jian Wang, Zhanzhan Xu, Shiwei Li, Chen Nie, Yuke Chen, Xiaoman Li, Weibin Wang, <u>Jiadong Wang</u> [20'+5"] Presenter affiliation: State Key Laboratory of Molecular Oncology, Peking University Health Science Center, Beijing, China.	78
Break	
Insights into BRCA1 and TP53 associated breast cancer development from integrated whole genome analysis of mouse model mammary tumors Yanying Huo, Ping Jing Toong, Shridar Ganesan, Serana Nik-Zainal, <u>Bing Xia</u> [20'+5"] Presenter affiliation: Rutgers Cancer Institute, New Brunswick, New Jersey.	79
Spatial control of ATR by RPA upon nuclear envelope breakdown prevents mitotic catastrophe <u>Xuefeng Chen</u> [10'+5'] Presenter affiliation: Children's Hospital of Chongqing Medical University, Chongqing, China.	80
Evolution of //Sp//Cas9 directed by CRISPR-induced targeted random insertion and deletion mutagenesis Chun-Yi Yang, Meng Wang, Rui-Rui Jiang, Hai-Hao Zhao, Si-Cheng Liu, <u>An-Yong Xie</u> [10'+5'] Presenter affiliation: Sir Run-Run Shaw Hospital, Zhejiang University School of Medicine, Hangzhou, China; Zhejiang University School of Medicine and Zhejiang University Cancer Center, Hangzhou, China.	81
Serotonin enhances HR repair via inostiol metabolic crosstalk in ovarian cancer Jie Li, Jingyi Lu, Cuimiao Zheng, <u>Chaoyun Pan</u> [10'+5"] Presenter affiliation: Sun Yat-sen University, Guangzhou, China.	82

NSD3-short enforces immune evasion and functions as a therapeutically actionable target in //KRAS//-mutant colorectal cancer

Zhengke Lian, Tianqi Zhu, Xiufeng Pang [10'+5']

Presenter affiliation: East China Normal University, Shanghai, China. 83

THURSDAY, March 26—2:00 PM

SESSION 9 SYSTEMS BIOLOGY OF DNA REPAIR

Chairpersons: **Stephen West**, The Francis Crick Institute, London, United Kingdom
Irene Chiolo, University of Southern California, Los Angeles, California, USA

Repairing broken chromosomes—Mechanistic insights from AlphaFold and cryo-EM

Stephen C. West [20'+5"]

Presenter affiliation: The Francis Crick Institute, London, United Kingdom. 84

Silencing and transcription—The Yin and Yang of DNA repair in heterochromatin

Chetan Rawal, Anik Mitra, Yunting Ma, Jakub Cibulka, Václav Moravec, Laetitia Delabaere, Trevor Reynolds, Jacob Miller, Jeff Wang, Chiara Merigliano, Leon Chen, Huanding Ji, Danielle Richards, Gaelle Legube, Patrick Sung, Lumir Krejci, Irene Chiolo [20'+5"]

Presenter affiliation: University of Southern California, Los Angeles, California. 85

Crosstalk between DNA methylation and base excision repair in mammalian epigenome reprogramming

Yin Wang, Yan-Hao Yu, Shao-Qin Rong, Ya-Rui Du, Guo-Liang Xu [20'+5"]

Presenter affiliation: Institutes of Biomedical Sciences, Shanghai, China; Shanghai Institute of Biochemistry and Cell Biology, Shanghai, China. 86

Structures and mechanisms of RAD51 modulators

Xiaodong Zhang [20'+5"]

Presenter affiliation: Imperial College London, London, United Kingdom; The Francis Crick Institute, London, United Kingdom. 87

Break

Deep multi-omics reconstruction of the DDR network reveals non-canonical regulators of DSB repair

Xin Xu, Jiajian Hu, Zhenkun Lou, Min Deng [10'+5']

Presenter affiliation: Chinese Academy of Medical Sciences and Peking Union Medical College, Beijing, China.

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Single-molecule insights into AID-mediated control of antibody class switch recombination

Di Liu, Bailin Zhao [10'+5']

Presenter affiliation: School of Basic Medical Sciences, Xi'an Jiaotong University Health Science Center, Xi'an, China; The Second Affiliated Hospital of Xi'an Jiaotong University, Xi'an, China.

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Carcinogenesis of long-term low dose rate exposure and the regulatory functions of lncRNAs

Yongduo Yu, Weiwei Pei, Wanshi Li, Guang Hu, Hailong Pei, Guangming Zhou [10'+5']

Presenter affiliation: Soochow University, Suzhou, China.

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R-loop processing through REXO4-RNaseH1-mediated endo- and exo-cleavage coupling mode prevents genome instability and anti-tumor immunity activation

Weibin Wang [10'+5']

Presenter affiliation: Peking University Health Science Center, Beijing, China.

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the ssDNA-binding protein RADX regulates EXO1-mediated DNA end resection to drive chemotherapy resistance

Xiaorong Wang, Miaomiao Xiao, Junhong Guan [10'+5']

Presenter affiliation: Lanzhou University Second Hospital, Lanzhou, China.

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THURSDAY, March 26—6:00 PM

COCKTAILS and BANQUET

FRIDAY, March 27

Departure