PROGRAM

MONDAY, June 13—7:00 PM

SESSION 1  KEYNOTE SPEAKERS

Mechanism for DNA lesion recognition, repair and tolerance
Wei Yang, Filip Golebiowski, Chia-lung Li, Yuki Onishi, Kaoru Sugasawa, Yang Gao  [35’+10’]
Presenter affiliation: National Institutes of Health, Bethesda, Maryland.  1

Making and breaking recombination intermediates
Stephen C. West  [35’+10’]
Presenter affiliation: The Francis Crick Institute, South Mimms, United Kingdom.  2

TUESDAY, June 14—8:30 AM

SESSION 2  GENOME REPLICATION, STABILITY AND DISEASES I

Chairpersons:  Thomas Kunkel, NIEHS, National Institutes of Health, Research Triangle Park, North Carolina, USA
Anthony Carr, University of Sussex, Brighton, United Kingdom

Generating and correcting nuclear DNA replication errors in yeast
Thomas A. Kunkel  [15’+5’]
Presenter affiliation: NIEHS, NIH, Research Triangle Park, North Carolina.  3

The structure of ORC and new thoughts on how the initiator finds chromosomes
Michael R. Botchan, Franziska Bleichert, James M. Berger  [15’+5’]
Presenter affiliation: University of California, Berkeley, California.  4
<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
<th>Presenter affiliation</th>
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<tr>
<td>Bidirectional initiation of chromosomal DNA replication in budding yeast</td>
<td>Hiroyuki Araki, Nishiho Makino, Masaru Yagura, Sachiko Muramatsu, Shizuko Endo, Hiroshi Itou</td>
<td>National Institute of Genetics, Mishima, Japan; SOKENDAI, Mishima, Japan</td>
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<td>Replication fork formation and fork stabilization in eukaryotic cells</td>
<td>Daochun Kong</td>
<td>Peking University, Beijing, China.</td>
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<td>Dynamic role of flap endonuclease 1 (FEN1) in Okasaki fragment maturation and genome stability</td>
<td>Binghui Shen</td>
<td>Beckman Research Institute, City of Hope, Duarte, California</td>
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<td>Coffee Break</td>
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<td>Mechanisms of replication-associated genome rearrangement</td>
<td>Izumi Miyabe, Andrea Keszthelyi, Karel Naiman, Johanne M. Murray, Antony M. Carr</td>
<td>University of Sussex, Brighton, United Kingdom.</td>
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<td>ETAA1 acts at stalled replication forks to maintain genome integrity</td>
<td>Thomas E. Bass, David Cortez</td>
<td>Vanderbilt University School of Medicine, Nashville, Tennessee.</td>
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<td>Error-prone processing of DNA heteroduplexes by mismatch repair</td>
<td>Jinzhen Guo, Liya Gu, Guo-Min Li</td>
<td>Tsinghua University School of Medicine, Beijing, China; University of Southern California Keck School of Medicine, Los Angeles, California.</td>
</tr>
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<td>Repair at DNA nicks</td>
<td>Nancy Maizels, Luther Davis, Henry C. Olson</td>
<td>University of Washington, Seattle, Washington.</td>
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</table>
The KEOPS complex regulates telomere replication and recombination independently of tRNA modification
Ying-Ying Liu, Ming-Hong He, Jing Peng, Jin-Qiu Zhou [15'+5']
Presenter affiliation: Shanghai Tech University, Shanghai, China; SIBS, CAS, University of Chinese Academy of Sciences, Shanghai, China.

TUESDAY, June 14—2:00 PM

SESSION 3  POSTER SESSION

A transcription-proximal DNA double-strand break results in large deletions due to R-loop processing
Julien Brustel, Steve M. Sweet
Presenter affiliation: Sussex University, Brighton, United Kingdom.

Evidence that endogenous G-quadruplex DNA mediates stress granule assembly in response to oxidative stress
Alicia K. Byrd, Boris L. Zybaiov, Leena Maddukuri, Jun Gao, Matthew R. Bell, Kevin D. Raney
Presenter affiliation: University of Arkansas for Medical Sciences, Little Rock, Arkansas.

Human MLH1 prevents the insertion of telomeric sequences at intra-chromosomal sites
Pingping Jia, Megan Chastain, Chengtao Her, Weihang Chai
Presenter affiliation: Washington State University, Spokane, Washington.

APOBEC3s mediate mutagenesis in CRISPR/Cas9-induced genome editing
Liqun Lei, Hongquan Chen, Wei Xue, Bian Hu, Jia Wei, Yafang Pan, Yiqiang Cui, Xiaosa Li, Jianying Wang, Wanjing Shang, Jimin Gao, Jiahao Sha, Min Zhuang, Bei Yang, Xingxu Huang, Bin Shen, Li Yang, Jin Chen
Presenter affiliation: ShanghaiTech University, Shanghai, China.

Single-molecule studies of single-stranded binding protein dependent ssDNA annealing dynamics
Jin Chen, Shimin Le, Walter J. Chazin, Jie Yan
Presenter affiliation: National University of Singapore, Singapore.
Wuho is a new member in maintaining genome stability through regulating Flap endonuclease 1
Presenter affiliation: Academia Sinica, Taipei, Taiwan.

Genetic crosstalk between homologous recombination pathway and oxidative stress responses for genomic integrity
Myung Ju Kim, Ji Eun Choi, Joohee Jung, Woo-Hyun Chung
Presenter affiliation: Duksung Women's University, Seoul, South Korea.

Distinct mutation accumulation rates among tissues determine the variation in cancer risk
Dapeng Hao, Li Wang, Li-jun Di
Presenter affiliation: Cancer Center, Macau, China.

HMGA2 protein protects stalled replication forks by constraining plectonemic DNA supercoils – implications for genome stability in stem and cancer cells
Xiaodan Zhao, Sabrina Peter, Priya Dharshanna, Moiz Ahmed, Jie Yan, Peter Droge
Presenter affiliation: Nanyang Technological University, Singapore.

Structural and functional study of a novel ATPase associated with Holiday junction resolvase Hjc
Binyuan Zhai, Kevin DuPrez, Tzanko I. Doukov, Yulong Shen, Li Fan
Presenter affiliation: University of California, Riverside, California.

Human RecQL4 helicase drives cisplatin resistance in gastric cancer by activating an Akt-YB1-MDR1 pathway
Hongbo Fang, Dongliang Mo, Kaifeng Niu, Srinivasan Madhusudan, Yongliang Zhao
Presenter affiliation: Key Laboratory of Genomic and Precision Medicine, China Gastrointestinal Cancer Research Center, Beijing, China.

Compact chromatin structure induced by Clr6-HDAC mediated deacetylation of histone H2B lysine 33 stabilizes stalled replication forks
Gang Feng, Daochun Kong
Presenter affiliation: Peking University, Beijing, China.
Global chromosome fragile site mapping by Break-seq discovers novel function of the Fragile X mental retardation protein
Arijita Chakraborty, Piroon Jenjaroenpun, Andrew McCulley, Vladimir Kuznetsov, Wenyi Feng
Presenter affiliation: SUNY Upstate Medical University, Syracuse, New York.

Valproic acid causes radiosensitivity to breast cancer cells via disrupting DNA repair pathway
Yue Luo, Hui Wang, Fengmei Zhang, Zhihui Feng
Presenter affiliation: Public Health School, Shandong University, Jinan, China.

Severe microcephaly, growth retardation, and ataxia in BCCIP conditional knockout mice
Dakim K. Gaines, Huimei Lu, Caiyong Ye, Yuan Lu, Jingmei Liu, Mladen-Roko Rasin, Zhiyuan Shen
Presenter affiliation: The Cancer Institute of New Jersey- Rutgers University, New Brunswick, New Jersey.

Chromosome segregation fidelity is impacted by the ribosomal RNA gene repeats
Daniela M. Quintana, Matthew A. Woods, Megan A. Schischka, Takehiko Kobayashi, Austen R. Ganley
Presenter affiliation: Massey University, Auckland, New Zealand; University of Auckland, Auckland, New Zealand.

ICP0 binding partners from cell DNA repair machinery and their implication in HSV-1 replication
Haidong Gu, Hyunah Kim
Presenter affiliation: Wayne State University, Detroit, Michigan.

Shifting of mini-loop in TTTA and CCTG repeats—An efficient DNA repair escape pathway?
Pei Guo, Sik Lok Lam
Presenter affiliation: The Chinese University of Hong Kong, Shatin, Hong Kong.

Regulatory roles of cohesin components in promoting homologous recombination during meiosis
Soogil Hong, Keun P Kim
Presenter affiliation: Chung-Ang University, Seoul, Korea.
The Holliday junction resolvase Hje in the hyperthermophilic archaeon Sulfolobus islandicus is likely modified by phosphorylation
Qihong Huang, Tengteng Song, Zhou Yan, Jinfeng Ni, Yulong Shen
Presenter affiliation: Shandong University, Jinan, China.

USP7 enforces RNF169-dependent DNA double-strand break responses
Liwei An, Yiyang Jiang, Qingguo Gong, Michael Huen
Presenter affiliation: The University of Hong Kong, Hong Kong.

Identification new regulatory pathways on RseP protease in Pseudomonas aeruginosa
Yida Y. Jiang, Iain I. Lamot
Presenter affiliation: University of Otago, Dunedin, New Zealand.

SYCP3 inhibits RAD51-mediated, but not DMC1-mediated, homologous pairing
Wataru Kobayashi, Noriko Hosoya, Mutsumi Teramoto, Shinichi Machida, Kiyoshi Miyagawa, Hitoshi Kurumizaka
Presenter affiliation: Waseda University, Tokyo, Japan.

Meiotic prophase role of Rec8 in regulating crossover recombination
Min-Su Lee, Keun P. Kim
Presenter affiliation: Chung-Ang University, Seoul, Korea.

RNF8 promotes epithelial-mesenchymal transition of breast cancer cells
Li Li, Jingyu Kuang, Limei Guo, Yanrong Su, Yuxuan Wang, Yongjie Xu, Genze Shao
Presenter affiliation: Peking University, School of Basic Medical Sciences, Beijing, China.

Regulation of spindle integrity and mitotic fidelity by BCCIPα
Steven Huhn, Jingmei Liu, Caiyong Ye, Huimei Lu, Zhiyuan Shen
Presenter affiliation: Rutgers Cancer Institute of New Jersey, New Brunswick, New Jersey.

Okazaki fragment maturation involves α-segment error editing by the mammalian FEN1/MutSα functional complex
Songbai Liu, Guojun Lv, Shafat Ali, Wenpeng Liu, Li Zheng, Guomin Li, Thomas A. Kunkel, Binghui Shen
Presenter affiliation: Suzhou Health College, Suzhou, China.
A selective small molecule DNA2 inhibitor for sensitization of human cancer cells to chemotherapy
Wenpeng Liu, Mian Zhou, Zhengke Li, Zheng Li, Judith L. Campbell, Binghui Shen, Hongzhi Li, Polaczek Piotr, Huifang Dai, Qiong Wu, Changwei Liu, Kenneth K. Karanja, Vencat Popuri, Shu-ou Shan, Katharina Schlacher
Presenter affiliation: Zhejiang University, Hangzhou, China; Beckman Research Institute, City of Hope, Duarte, California; California Institute of Technology, Pasadena, California.

FUSE binding protein 1 facilitates hepatitis C virus replication by regulating tumor suppressor p53
Zhihe Liu, Jinli Zhang, Xifeng Xiong
Presenter affiliation: Guangzhou Institute of Traumatic Surgery, Guangzhou Red Cross Hospital, Guangzhou, Guangdong, China.

Formations of liver tumors and B-cell lymphomas in mosaic mice reveal a role of BCCIP gene in suppression of inflammation-associated tumorigenesis
Huimei Lu, Caiyong Ye, Jingmei Liu, Zhiyuan Shen
Presenter affiliation: Robert Wood Johnson Medical School, Rutgers University, New Brunswick, New Jersey.

BRCA1 maintains genomic stability in male germ cells
Peng Li, Lin-Yu Lu
Presenter affiliation: Women's Hospital, Hangzhou, China; Institute of Translational Medicine, Hangzhou, China.

Genomic instability in the diploid and tetraploid offspring of the goldfish x the common carp cross
Jing Luo, Shaojun Liu, Jing Chai, Li Ren, Yi Zhou, Feng Huang, Xiaochuan Liu, Axel Meyer, Yaping Zhang
Presenter affiliation: State Key Laboratory for Conservation and Utilization of Bio-resource, Kunming, China.

The homologous pairing reaction in higher-ordered chromatin containing linker histone H1
Shinichi Machida, Motoki Takaku, Masae Ikura, Jiying Sun, Wataru Kobayashi, Aiko Kinomura, Akihisa Osakabe, Hiroaki Tachiwana, Yasunori Horikoshi, Atsuhiko Fukuto, Tsuyoshi Ikura, Satoshi Tashiro, Hitoshi Kurumizaka
Presenter affiliation: Waseda University, Tokyo, Japan.
The p53-like protein CEP-1 is required for meiotic fidelity in C. elegans
Abigail Rachele Mateo, Zebulin Kessler, Kristine Jolliffe, Olivia McGovern, Bin Yu, Alissa Nicolucci, Judith Yanowitz, Brent Derry
Presenter affiliation: University of Toronto, Toronto, Canada; The Hospital for Sick Children, Toronto, Canada. 46

PP2A-mediated suppression of ATM signaling by Chlamydia trachomatis inhibits repair of DNA double strand breaks by homologous recombination
Yang Mi, Rajendra K. Gurumurthy, Piotr Zadora, Thomas F. Meyer, Cindrilla Chumduri
Presenter affiliation: The Fifth Affiliated Hospital of Zhengzhou University, Zhengzhou, China. 47

RNR regulation in fission yeast.
Konstantinos Nestoras, Antony M. Carr
Presenter affiliation: University of Sussex, Brighton, United Kingdom. 48

Distinct catalytic activity and functional interplay of the ExoIII and EndoIV AP endonucleases from Sulfolobus islandicus
Zhou Yan, Jinfeng Ni, Yulong Shen
Presenter affiliation: State Key Laboratory of Microbial Technology, Jinan, China. 49

Acetylation of replication protein A (RPA) improves its DNA binding property
Onyekachi E. Ononye, Sneha Surendran, Lata Balakrishnan
Presenter affiliation: Indiana University-Purdue University Indianapolis (IUPUI), Indianapolis, Indiana. 50

Timeless interacts with Parp1 to promote DNA DSB repair
Si Xie, Oliver Mortusewicz, Hoi Tang Ma, Randy YC Poon, Thomas Helleday, Chengmin Qian
Presenter affiliation: The University of Hong Kong, Hong Kong. 51

Yeast helicase Pif1 mediates remodeling of protein-nucleic acid complexes
Kevin D. Raney, Shubeena Chib, Alicia K. Byrd
Presenter affiliation: University of Arkansas for Medical Sciences, Little Rock, Arkansas. 52
Germline RET mutations contribute to chromosomal instability in osteosarcoma, independent of canonical TP53/RB1 pathways
Sebastian Ribi, Michal Kovac, Claudia Blattmann, Karl Heinimann, Gernot Jundt, Michaela Nathrath, Daniel Baumhoer
Presenter affiliation: University Hospital Basel, Basel, Switzerland.

In vivo functional analyses of two DExD/H-box family helicases in Sulfolobus islandicus
Xueguo Song, Qihong Huang, Jinfeng Ni, Yulong Shen
Presenter affiliation: Shandong University, Jinan, China.

Negative regulation of a Holliday junction resolvase by an E3 ubiquitin ligase complex
Brett N. Spatola, Jacqueline Y. Lo, Sean P. Curran
Presenter affiliation: University of Southern California, Los Angeles, California.

Negative regulation of a Holliday junction resolvase by an E3 ubiquitin ligase complex
Brett N. Spatola, Jacqueline Y. Lo, Sean P. Curran
Presenter affiliation: University of Southern California, Los Angeles, California.

Insights into the roles of ATP in Mre11 complex functions revealed by the structure of ATPγS-Mre11/Rad50-DNA complex
Sihyun Sung, Yaqi Liu, Youngran Kim, Youngbong Park, Fuyang Li, Sang Eun Lee, Yunje Cho
Presenter affiliation: POSTECH, Pohang, Korea.

Novel Fanconi anemia E3 ligase RFWD3 regulates RPA and RAD51 degradation to facilitate homologous recombination and ICL repair
Shojiro Inano, Koichi Sato, Yoko Katsuki, Shinichiro Nakada, Akifumi Takaori-Kondo, Masamichi Ishiai, Detlev Schindler, Hitoshi Kurumizaka, Minoru Takata
Presenter affiliation: Radiation Biology Center, Kyoto University, Kyoto, Japan.

Fission yeast 9-1-1 complex is required for the maintenance of circular chromosome in the presence of 5-fluorodeoxyuridine
Hossain M. Shamim, Yukako Minami, Masaru Ueno
Presenter affiliation: Hiroshima University, Higashi-Hiroshima, Japan.

Identification and characterization of androgen receptor splice variants preferred bindings that drive prostate cancer progression
Liguo Wang, Yundong He, Ji Lu, Zhenqing Ye, Tindall J. Donald, Haojie Huang
Presenter affiliation: Mayo Clinic, Rochester, Minnesota.
Control of non-homologous end joining by histone H2AX
Yili Feng, Ye Feng, Jifeng Xiang, Guofang Yan, Hui Lin, Xiujun Cai, Anyong Xie
Presenter affiliation: Sir Run Run Shaw Hospital, Zhejiang University, Hangzhou, China; Institute of Translational Medicine, Zhejiang University, Hangzhou, China.

APE1 promotes EGFR-TKI acquired resistance in non-small cell lung cancer through regulating epithelial to mesenchymal transition
Xiao Yang, Mengxia Li, Dong Wang, Xuan Jiang, Yu Peng, Wei Duan, Nan Dai, Jinlu Shan, Yan Feng, Shiheng Zhang, Xuemei Li, Yi Cheng, Yuxin Yang
Presenter affiliation: Third Military Medical University, Chongqing, China.

EXOG in human mitochondrial DNA repair
Michal Szymanski, Wangsheng Wang, Aleksandra Gmyrek, Mark White, Ching Lee, Whitney Yin
Presenter affiliation: University of Texas Medical Branch, Galveston, Texas; Sealy Center for Structural Biology, Galveston, Texas.

Novel oncogene with kinase-domain (NOK) induces two distinct cellular responses with respect to cell cycle checkpoint and DNA damage in different cell lines
Sulin Zeng, Li Liu
Presenter affiliation: Institute of Basic Medical Sciences, Beijing, China.

Female-specific crossover inefficiency—A new feature of human meiosis that underlies elevated female aneuploidy
Shunxin Wang, Terry Hassold, Pat Hunt, Nancy Kleckner, Liangran Zhang
Presenter affiliation: Shandong University, Jinan, China.

Cdc45 ubiquitylation is required for replicative integrity
Xiying Guo, Bin Hu, Xianhao Wu, Yuexuan Zhang
Presenter affiliation: Huazhong University of Science and Technology, Wuhan, China.

ESC-specific Filia/Floped/BLM complex regulates replication stress response and safeguards genomic stability
Bo Zhao, Weidao Zhang, Ping Zheng
Presenter affiliation: Kunming Institute of Zoology, CAS, Kunming, China.
Structural basis for DNA 5'-end resection by RecJ
Ye Zhao, Kaiying Cheng, Hong Xu, Xuanyi Chen, Liangyan Wang, Bing Tian, Yuejin Hua
Presenter affiliation: Zhejiang University, Hangzhou, China.

Triptolide-assisted phosphorylation of p53 suppresses inflammation-induced NF-κB survival pathways in cancer cells
Li Zheng, Mian Zhou, Binghui Shen
Presenter affiliation: City of Hope, Duarte, California.

TUESDAY, June 14—4:30 PM
Chinese Tea and Beer Tasting

TUESDAY, June 14—7:00 PM

SESSION 4  GENOME REPLICATION, STABILITY AND DISEASES II

Chairperson: Arthur Levine, University of Pittsburgh School of Medicine, Pittsburgh, Pennsylvania, USA
Zhao-Qi Wang, Leibniz Institute On Aging - Fritz Lipmann Institute (FLI), Jena, Germany

Cancer and translesion synthesis polymerases: with special reference on UV-induced mutagenesis
Yasutaka Sakurai, Masayuki Yokoi, Fumio Hanaoka [15'+5']
Presenter affiliation: Gakushuin University, Tokyo, Japan.

PTEN family regulates DNA replication and metabolism
Hui Liang, Zhuo Sun, Shiming He, Jingyi Yang, Minglu Zhu, Michael A. McNutt, Yuxin Yin [15'+5']
Presenter affiliation: Institute of Systems Biomedicine, Peking University Health Science Center, Beijing, China.

Confounding roles of essential caretaker genes in tumorigenesis—New insights gained from reversible BCCIP-deficiency mouse models
Zhiyuan Shen, Huimei Lu, Roberto Droz, Jingmei Liu, Dakim Gaines, Caiyong Ye, Steven Huhn [15'+5']
Presenter affiliation: Rutgers Cancer Institute of New Jersey, Rutgers The State University of New Jersey, New Brunswick, New Jersey.
Preventing topoisomerase I-induced DNA breaks during transcription by the RECQ5 helicase
Yilun Liu  [15'+5']
Presenter affiliation: Beckman Research Institute of City of Hope, Duarte, California. 72

The FEN1 L209P mutation interferes with long patch base excision repair and induces cellular transformation
Hongfang Sun, Huan Wu, Yilan zhang, Chandra Sekhar, Zhigang Guo [10'+5']
Presenter affiliation: Nanjing Normal University, Nanjing, China. 73

DNA damage response and neurodevelopment
Zhao-Qi Wang  [15'+5']
Presenter affiliation: Leibniz Institute On Aging – Fritz Lipmann Institute (FLI), Jena, Germany. 74

De novo purine biosynthesis in drug resistance and tumor relapse of childhood AL
Bin-Bing S. Zhou  [15'+5']
Presenter affiliation: Pediatric Translational Medicine Institute, Shanghai, China. 75

WEDNESDAY, June 15—8:30 AM

SESSION 5 DNA DAMAGE RESPONSE

Chairpersons: Junjie Chen, University of Texas MD Anderson Cancer Center, Houston, Texas, USA
Lee Zou, MGH Cancer Center/Harvard Medical School, Boston, Massachusetts, USA

Protein-protein interaction network in DNA damage response and tumorigenesis
Junjie Chen  [15'+5']
Presenter affiliation: The University of Texas M. D. Anderson Cancer Center, Houston, Texas. 76

CLASPIN deubiquitination modulates ATR-dependent CHK1 activation in response to replication stress
Hongchang Zhao, Min Zhu, Xingzhi Xu  [15'+5']
Presenter affiliation: Capital Normal University, Beijing, China. 77
A mitosis-specific MRN complex acts as a mitotic DNA damage checkpoint
Dongyi Xu [10'+5']
Presenter affiliation: Peking University, Beijing, China. 78

Regulation of the BRCA2-Rad51 pathway by ubiquitination signaling
Jian Yuan, Zhenkun Lou [15'+5']
Presenter affiliation: Mayo Clinic, Rochester, Minnesota. 79

An endogenous PARP inhibitor
Xiaochun Yu [15'+5']
Presenter affiliation: City of Hope, Duarte, California. 80

Coffee Break

Novel functions of RPA as a sensor of genomic instability
Hai Dang Nguyen, Tribhuwan Yadav, Lee Zou [15'+5']
Presenter affiliation: Massachusetts General Hospital, Harvard Medical School, Boston, Massachusetts. 81

The ATM-PKM2-CtIP axis bridges cancer cell metabolism to DNA repair
Steven Sizemore, Manchao Zhang, Ju hwan Cho, Zhimin Lu, Arnab Chakravarti, Fen Xia [10'+5]
Presenter affiliation: the Ohio State University, Columbus, Ohio. 82

Role of Bclaf1 in DNA damage induced cellular senescence
Anwen Shao, Jun Tang [10'+5']
Presenter affiliation: College of Veterinary Medicine, China Agricultural University, Beijing, China. 83

Progress in molecular mechanisms of radioresistance in Deinococcus radiodurans
Yuejin Hua [15'+5']
Presenter affiliation: Zhejiang University, Hangzhou, China. 84

Role of ATM, DNA-PKcs and ATR in DNA repair—Go beyond signaling
Shan Zha [15'+5']
Presenter affiliation: Columbia University, New York, New York. 85
SESSION 6  CELLULAR RESPONSES TO DNA REPLICATION STRESSES

Chairperson:  Tanya Paull, University of Texas at Austin, Austin, Texas, USA

Processing of protein-DNA lesions in eukaryotic cells
Nodar Makharashvili, Sucheta Arora, Fu Qiong, Tanya T. Paull [15'+5']
Presenter affiliation: Howard Hughes Medical Institute, The University of Texas at Austin, Austin, Texas.

Regulation of the Dna2 helicase/nuclease during DNA replication stress
Martin E. Budd, Kenneth K. Karanja, Piotr Polaczeck, Greg Ngo, David Lydall, Wenpeng Liu, Judith L. Campbell [15'+5']
Presenter affiliation: California Institute of Technology, Pasadena, California.

Fanconi anemia and cellular response to DNA replication stress
Yanyan Tian, Xi Shen, Sarah Martin, Erica Lynn, Junjie Chen, Katharina Schlacher, Lei Li [15'+5']
Presenter affiliation: The University of Texas MD Anderson Cancer Center, Houston, Texas.

Interaction with G-quadruplex structures forms a basis for Rif1-mediated regulation of DNA replication, transcription and chromatin architecture
Hisao Masai, Rino Fukatsu, Naoko Kakusho, Yutaka Kanoh, Seiji Matsumoto, Kenji Moriyama, Naoko Yoshizawa, Satoshi Yamazaki [15'+5']
Presenter affiliation: Tokyo Metropolitan Institute of Medical Science, Tokyo 156-8506, Japan.

Control of replication timing and subnuclear localization by telomere binding proteins in fission yeast
Shiho Ogawa, Hidesato Ogawa, Haruhiko Asakawa, Tatsuro S. Takahashi, Takuro Nakagawa, Yasushi Hiraoka, Hisao Masukata [15'+5']
Presenter affiliation: Osaka University, Toyonaka, Japan; Osaka University, Suita, Japan.
The Smc5/6 complex and replication stress
Johanne M. Murray [15'+5']
Presenter affiliation: University of Sussex, Brighton, United Kingdom. 91

Alcohol and endogenously derived aldehydes mutate the genomes of blood stem cells
Ketan Patel [15'+5']
Presenter affiliation: University of Cambridge, Cambridge, United Kingdom. 92

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THURSDAY, June 16—8:30 AM

SESSION 7 DOUBLE STRAND BREAK REPAIR I

Chairpersons: Maria Jasin, Memorial Sloan-Kettering Cancer Center, New York, New York, USA
Stephen Kowalczykowski, University of California-Davis, Davis, California, USA

Protecting the genome by homologous recombination
Maria Jasin [15'+5']
Presenter affiliation: Memorial Sloan Kettering Cancer Center, New York, New York. 93

Structural mechanism of double strand break repair by the Mre11 complex
Yunje Cho [15'+5']
Presenter affiliation: Pohang University of Science and Technology, Pohang, South Korea. 94
The deubiquitinases in regulating homologous recombination
Jian Yuan, Yunhui Li, Chenming Wu, Lei Li, Yujiao Yin, Yuping Chen
[10'+5']
Presenter affiliation: Shanghai East Hospital, Shanghai, China. 95

Quality control of homologous recombination repair
Jun Huang [15'+5']
Presenter affiliation: Zhejiang University, Hangzhou, China. 96

Factors that influence the outcome of mammalian chromosomal break repair
David O. Onyango, Sean M. Howard, Ragini Bhargava, Jeremy M. Stark [15'+5']
Presenter affiliation: Beckman Research Institute of the City of Hope, Duarte, California. 97

Replication fork collapse triggers the relocation of common fragile sites to nuclear periphery and crossover recombination in mammalian cells
Zhanwen Du, Yao Zhang, Xiaosong Yang, Zhefu Ma, Gonzalo Susana, Chunhong Yan, Junran Zhang [10'+5']
Presenter affiliation: School of Medicine, Case Western Reserve University, Cleveland, Ohio. 98

Coffee Break

Molecular functions of BRCA1, BRCA2, and RAD51 paralogs in homologous recombination
Stephen Kowalczykowski [15'+5']
Presenter affiliation: University of California, Davis, Davis, California. 99

Nek7 protects telomere integrity via preventing TRF1 degradation during DNA damage
Rong Tan, Arthur Levine, Bing Su, Li Lan [15'+5']
Presenter affiliation: University of Pittsburgh Cancer Institute, Pittsburgh, Pennsylvania. 100

The structure of the eukaryotic Holliday junction-resolving enzyme GEN1 bound to DNA
David M. Lilley [15'+5']
Presenter affiliation: University of Dundee, Dundee, United Kingdom. 101
The Mre11 interaction domain of Nbs1 is necessary and sufficient for Mre11 complex functions
Jun Hyun Kim, John H.J. Petrini [15'+5']
Presenter affiliation: Memorial Sloan Kettering Cancer Center, New York, New York.

A proposed role for the telomere resolvase, ResT, in rescue of DNA replication near the hairpin telomeres of Borrelia
Shu Hui Huang, Kerri Kobryn [10'+5']
Presenter affiliation: University of Saskatchewan, Saskatoon, Canada.

THURSDAY, June 16—2:00 PM

SESSION 8 DOUBLE STRAND BREAK REPAIR II

Chairpersons: Patrick Sung, Yale University School of Medicine, New Haven, Connecticut, USA
Keith Caldecott, University of Sussex, Brighton, United Kingdom

Role of the RAD51-RAD51AP1-UAF1 complex in homologous recombination
Fengshan Liang, Claudia Wiese, Gary Kupfer, Patrick Sung [15'+5']
Presenter affiliation: Yale University School of Medicine, New Haven, Connecticut.

Control of meiotic recombination by Rad51/Dmc1 mediators and DNA helicases
Akira Shinohara [15'+5']
Presenter affiliation: Institute for Protein Research, Osaka University, Suita, Osaka, Japan.

Regulation of DNA double-strand break repair in mammalian cells
Shibo Li, Lan Truong, Yongjiang Li, Tinghong Lu, Xiaohua Wu [15'+5']
Presenter affiliation: The Scripps Research Institute, La Jolla, California.

Novel shuttle vector-based methods for assessing the transcriptional and replicative bypass of DNA lesions in cells
Changjun You, Pengcheng Wang, Bifeng Yuan, Yinsheng Wang [15'+5']
Presenter affiliation: University of California, Riverside, California.

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Generation of a highly sensitive antibody capable of detecting a minimal level of the thymine dimer lesion inflicted by a physiological dose of UV
Bingjie Kong, Haiying Hang [10'+5']
Presenter affiliation: Institute of Biophysics, Chinese Academy of Sciences, Beijing, China.

Coffee Break

Regulation and assembly of DNA strand break repair protein complexes associated with human genetic disease
Keith W. Caldecott [15'+5']
Presenter affiliation: University of Sussex, Falmer, Brighton, United Kingdom.

Smc5/6- and SUMO-based regulation of recombination intermediate metabolism
Xiaolan Zhao, Jaclyn Bonner Bonner, Koyi Choi [15'+5']
Presenter affiliation: Memorial Sloan-Kettering Cancer Center, New York, New York.

Single-molecule imaging reveals how the Mre11/Rad50/Nbs1 complex coordinates the first steps of double-stranded break repair
Logan R. Myler, Ignacio F. Gallardo, Yoori Kim, Tanya T. Paull, Ilya J. Finkelstein [10'+5']
Presenter affiliation: UT-Austin, Austin, Texas.

Unexpected roles of caspases, DNA double strand breaks, and DNA damage response in facilitating carcinogenesis and sustaining tumorigenicity
Xinjian Liu, Fang Li, Qian Huang, Chuan-Yuan Li [15'+5']
Presenter affiliation: Duke University Medical Center, Durham, North Carolina.

Differential roles of human telomere proteins in telomere maintenance
Songyang Zhou [15'+5']
Presenter affiliation: Baylor College of Medicine, Houston, USA and Sun Yat-Sen University, Guangzhou, China.
SESSION 9  EPIGENETICS AND PTM-MEDIATED DNA DAMAGE RESPONSE AND REPAIR I

Chairpersons:  Guo-liang Xu, Institute of Biochemistry and Cell Biology, CAS, Shanghai, China  
              Li-Lin Du, National Institute of Biological Sciences, Beijing, China

Enzymatic oxidation of methylcytosine in mammalian genomic DNA  
Guo-Liang Xu  [15'+5']  
Presenter affiliation: Institute of Biochemistry and Cell Biology, Shanghai, China.  113

Altered structures and physical characteristics of nucleosomes containing cancer-associated histone mutations  
Hitoshi Kurumizaka  [15'+5']  
Presenter affiliation: Waseda University, Tokyo, Japan.  114

RNA epigenetics control of DNA double-strand breaks repair  
Yun-Gui Yang  [15'+5']  
Presenter affiliation: CAS Key Laboratory of Genomic and Precision Medicine, Beijing, China.  115

Replication protein A interacts with histone H3-H4 and contributes to DNA replication coupled nucleosome assembly  
Shaofeng Liu, Zhiyun Xu, He Leng, Pu Zheng, Jianxun Feng, Kaifu Chen, Qing Li  [10'+5']  
Presenter affiliation: Peking University, Beijing, China.  116

Chromatin remodeling for DNA double-strand break repair and transcriptional repression  
Akira Yasui, Reiko Watanabe, Shin-ichiro Kanno, Ayako Ui  [15'+5']  
Presenter affiliation: Institute of Development, Aging and Cancer (IDAC), Tohoku University, Sendai, Japan.  117

Lysine methyltransferases and demethylases in controlling DNA repair, genome stability and cell survival  
Wei-Guo Zhu  [15'+5']  
Presenter affiliation: Shenzhen University Health Science Center, Shenzhen, China; Peking University Health Science Center, Beijing, China.  118
### Coffee Break

**Snf2-family protein Rrp2 confers etoposide resistance through counteracting SUMO-targeted ubiquitin E3 ligase**
Yi Wei, Li-Xue Diao, Hai-Tao Wang, Shan Lu, Meng-Qiu Dong, Li-Lin Du [15'+5']
Presenter affiliation: National Institute of Biological Sciences, Beijing, Beijing, China.

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**REV1 promotes PCNA monoubiquitination through interacting with ubiquitinated RAD18**
Zhifeng Wang, Min Huang, Xiaolu Ma, Huiming Li, Tie-Shan Tang, Caixia Guo [10'+5']
Presenter affiliation: Beijing Institute of Genomics, Beijing, China.

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**Wdr70 promotes long-range resection by stimulating histone H2B monoubiquitination**
Ming Zeng, Ken'Ichi Mizuno, Daochun Kong, Lilin Du, Antony Carr, Cong Liu [15'+5']
Presenter affiliation: Sichuan University, Chengdu, China.

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**Linking sister chromatid cohesion to chromosome replication**
Jingjing Zhang, Haitao Sun, Di Shi, Xiaoli Li, Qinhong Cao, Huiqiang Lou [15'+5']
Presenter affiliation: China Agricultural University, Beijing, China.

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**PCNA-Ub polyubiquitination inhibits cell proliferation and induces cell-cycle checkpoints**
Wei Xiao, Zhoushuai Qin, Zhiqiang Bai [15'+5']
Presenter affiliation: Capital Normal University, Beijing, China.

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