

PROGRAM

MONDAY, September 5—7:00 PM

KEYNOTE SPEAKER

Recent advances in telomeres and telomerase—TeSLA, TPE-OLD and 6-thio-2'-deoxyguanosine

Jerry W. Shay [50'+10']

Presenter affiliation: University of Texas Southwestern Medical Center, Dallas, Texas. 1

TUESDAY, September 6—9:00 AM

SESSION 1 FUNCTIONS OF TELOMERE PROTEINS, TELOMERASE AND TERRA

Chairperson: **Zhou Songyang**, Baylor College of Medicine, Houston, Texas, USA

Roger Greenberg, University of Pennsylvania, Philadelphia, Pennsylvania, USA

Differential roles of human telomere proteins in telomere maintenance and metabolic control

Zhou Songyang, Feng Li, Hyeung Kim [20'+5']

Presenter affiliation: Baylor College of Medicine, Houston, Texas; Sun Yat-Sen University, Guangzhou, China. 2

Essential role of human TERRA for telomere formation

Isabel López de Silanes, Juan José Montero, Osvaldo Grana, Maria

Antonia Blasco [12'+3']

Presenter affiliation: Spanish National Cancer Research Centre (CNIO), Madrid, Spain. 3

Disrupting CCDC79-TRF1 interaction obstructs meiotic homologous pairing

Juanjuan Long, Chenhui Huang, Yie Liu, Yanyan Chen, Ying Zhang,

Ligang Wu, Jian Wu, Ming Lei [12'+3']

Presenter affiliation: CAS, Shanghai, China. 4

Replication stress induces mitotic cell death through cohesion failure and telomere deprotection

Pragathi Masamsetti, Ka Sin Mak, Ronnie R. Low, Noa Lamm-Shalem, Jan Karlseder, Makoto T. Hayashi, [Anthony J. Cesare](#) [12'+3']
Presenter affiliation: Children's Medical Research Institute, Sydney, Australia.

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Coffee / Tea Break

TUESDAY, September 6—10:30 AM

SESSION 2 SHELTERIN AND TELOMERE FUNCTION

Chairperson: **Zhou Songyang**, Baylor College of Medicine, Houston, Texas, USA
 Roger Greenberg, University of Pennsylvania, Philadelphia, Pennsylvania, USA

TPP1 degradation mediates stress-induced cell replicative senescence

[Jun-Ping Liu](#) [20'+5']
Presenter affiliation: Hangzhou Normal University, Hangzhou, China; Monash University, Melbourne, Australia.

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Role of the TRF2 in heterochromatic replication

Aaron Mendez-Bermudez, Marie-Josophe Giraud-Panis, Lidmyla Lototska, Michele Debatisse, Jing Ye, [Eric Gilson](#) [20'+5']
Presenter affiliation: LIA Shanghai Jiao Tong University School of Medicine/Ruijin hospital/CNRS/INSERM/Nice University, Shanghai, China; Institute for Research on Cancer and Aging, Nice (IRCAN), CNRS UMR 7284 - INSERM U1081, Nice, France; CHU Nice, Nice, France.

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Regulation of p21 by shelterin

[Roger Reddel](#) [20'+5']
Presenter affiliation: Children's Medical Research Institute, Sydney, Australia.

SESSION 3 POSTER SESSION

Structural Insights of Human POT1-TPP1 Interaction

Cong Chen, Peili Gu, Xianyun Chen, Shuangshuang Niu, Lijie Wu, Na Li, Junhui Peng, Cuiying Fan, Min Huang, Catherine C.L. Wong, Qingguo Gong, Rongguang Zhang, Jian Wu, Sandy Chang, Ming Lei
Presenter affiliation: Institute of Biochemistry and Cell Biology, Shanghai Institutes for Biological Sciences, Chinese Academy of Sciences, Shanghai, China.

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Bivalent interaction of Cdc13-Est1 regulates yeast telomerase recruitment and activation

Hongwen Chen, Jian Wu, Jing Xue, Lijie Wu, Rongguang Zhang, Jin-Qiu Zhou, Ming Lei
Presenter affiliation: National Center for Protein Science Shanghai, Shanghai, China; State Key Laboratory of Molecular Biology, Shanghai, China.

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Role of Smad7 in TGF- β signalling to telomeres in lung aging—Shield or sieve

Ruping Chen, Jun-Ping Liu
Presenter affiliation: Hangzhou Normal University, Hangzhou, China.

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AAV9-TRF1 gene therapy prolongs health span in mice

Aksinya Derevyanko, Fatima Bosch, Maria Blasco
Presenter affiliation: Spanish National Cancer Research Centre (CNIO), Madrid, Spain.

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Preferential extension of short telomeres induced by low extracellular pH

Yuanlong Ge, Shu Wu, Yong Xue, Jun Tao Tao, Feng Li, Yanlian Chen, Haiying Liu, Wenbin Ma, Junjiu Huang, Yong Zhao
Presenter affiliation: Key Laboratory of Gene Engineering of the Ministry of Education, State Key Laboratory of Biocontrol, Guangzhou, China; Collaborative Innovation Center of High Performance Computing, Changsha, China; Zhongshan Medical School, Guangzhou, China.

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Structural studies of the telomere single-stranded DNA binding protein Cdc13	
<u>Yunhui Ge</u> , Hongwen Chen, Jian Wu, Ming Lei	
Presenter affiliation: National Center for Protein Science Shanghai, Shanghai, China.	13
In fine DNA topology does matter—Development of new tools to study telomeric DNA topology	
<u>Marie-Josèphe Giraud-Panis</u> , Olivia Vidal, Eric Gilson	
Presenter affiliation: University of Nice, Nice, France.	14
Short telomere length and its correlation with gene mutations in myelodysplastic syndrome	
<u>Dong S. Lee</u> , Sang M. Hwang, Si N. Park, Kyongok Im, Jung A. Kim, Sung M. Kim	
Presenter affiliation: Seoul National University College of Medicine, Seoul, South Korea.	15
TRF2 protects against DNA damage at telomeres through the regulation of PPP2R2C	
<u>Waiian Leong</u> , Xiuyun Zhai, Peng Han, Jun Xing, Ninan Chen, Cuicui Wang, Bohua Wei, Eric Gilson, Yiming Lu, Jing Ye	
Presenter affiliation: Shanghai Ruijin Hospital, Shanghai, China.	16
Sir4 modulates Rif2 but not Rif1 binding on telomeres to regulate telomere length in <i>S. cerevisiae</i>	
<u>Jun Liu</u> , Zhenfang Wu, Yi-Min Duan, Jin-Qiu Zhou	
Presenter affiliation: Shanghai Institutes for Biological Sciences, Chinese Academy of Sciences, Shanghai, China.	17
Chemically induced pluripotent stem cells (ciPSCs) acquire telomere lengthening in association with pluripotency	
Haifeng Fu, Xiaoying Ye, <u>Lin Liu</u>	
Presenter affiliation: Nankai University, Tianjin, China.	18
Simultaneous measurement of telomere length and transcriptome in the same cell	
Hua Wang, Shan Gao, <u>Lin Liu</u>	
Presenter affiliation: Nankai University, Tianjin, China.	19

- Telomere loops regulate activation of the DNA damage response by the chromosome end**
David Van Ly, Sonja Frollich, Ronnie Ren Jie Low, Katharina Gaus, Anthony J. Cesare
Presenter affiliation: Children's Medical Research Institute, New South Wales, Australia. 20
- The KEOPS complex regulates telomere replication and recombination independently of tRNA modification**
Ying-Ying Liu, Ming-Hong He, Jing Peng, Yisi Lu, Jin-Qiu Zhou
Presenter affiliation: ; The State Key Laboratory of Molecular Biology, Shanghai Institute of Biochemistry and Cell Biology, SIBS,CAS, Shanghai, China. 21
- TRF2 mediates the switch from telomere to pericentromere instability leading to cellular senescence**
Aaron Mendez Bermudez, Liudmyla Lototska, Serge Bauwens, Marie-Jo Giraud-Panis, Eric Gilson, Jing Ye
Presenter affiliation: Pôle Sino-Français de Recherches en Sciences du Vivant et Génomique, Shanghai, China. 22
- Metastasis suppressor transcriptionally represses telomerase by inducing repressive chromatin marks**
Dhurijoti Saha, Ankita Singh, Tabish Hussain, Suman Sengupta, Parashar Dhapola, Vivek Srivastava, Shalu Sharma, Ramesh Ummani, Shantanu Chowdhury
Presenter affiliation: CSIR-Institute of Genomics and Integrative Biology, New Delhi, India. 23
- FBW7 induces TPP1 degradation, telomere dysfunction and cellular senescence in vitro and in vivo**
Lihui Wang, Ruping Chen, Guo Li, Junping Liu
Presenter affiliation: Hangzhou Normal University, Hangzhou, China. 24
- Distinct responses of stem cells to telomere uncapping—A potential strategy to improve the safety of cell therapy**
Ting-Dong Yan, Shang Li
Presenter affiliation: Duke-NUS Medical School, Singapore. 25
- CRISPR/Cas9 mediated TRF2 mutation leads to a senescent phenotype and regeneration failure in zebrafish**
Yilin Ying, Jun Xing, Ninan Chen, Wai Ian Leong, Yiming Lu, Eric Gilson, Jing Ye
Presenter affiliation: Shanghai Jiaotong University School of Medicine, Shanghai, China. 26

- Persistent organic pollutants induced telomere damage finally lead to aging related diseases**
Jinghua Yuan, Feng Wang
 Presenter affiliation: Tianjin Medical University, Tianjin, China. 27
- Analysis of genetic diversity in inherited chromosomally-integrated HHV-6, somatic instability and telomere dynamics**
Enjie Zhang, Adam Bell, Yan Huang, Gavin S. Wilkie, Rita Neumann, Chiara Batini, Mark A. Jobling, Ruth Jarrett, Andrew J. Davison, Nicola J. Royle
 Presenter affiliation: University of Leicester, Leicester, United Kingdom. 28
- RECQ4 restart stalled replication fork at telomere through the interaction with CST**
Miaomiao Zhang, Feng Wang
 Presenter affiliation: Tianjin Medical University, Tianjin, China. 29
- Automatic quantification of short telomere length and telomere position effect over long distances**
Ning Zhang, Tsung-Po Lai, Wanil Kim, Sangyoon J. Han, Gaudenz Danuser, Jerry W. Shay
 Presenter affiliation: UT Southwestern Medical Center, Dallas, Texas. 30
- Quadruplex ligand Tetra-Pt(bpy) induces the death of human ALT cancer cells by inhibiting homologous recombination-mediated telomere elongation**
Xiao-Hui Zheng, Xin Nie, Yiming Fang, Zepeng Zhang, Haiying Liu, Yong Zhao
 Presenter affiliation: School of Life Sciences, Guangzhou, China. 31

TUESDAY, September 6—4:30 PM

Chinese Tea and Beer Tasting

SESSION 4 **TELOMERE MAINTENANCE, AGING AND DISEASES**

Chairperson: **Kathleen Collins**, University of California, Berkeley, USA
Steven Artandi, Stanford University School of Medicine,
California, USA

The genetic basis of familial short telomere syndromes

Susan E. Stanley, Dustin L. Gable, Mary Armanios [20'+5']

Presenter affiliation: Johns Hopkins University School of Medicine,
Baltimore, Maryland.

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The role of telomere shortening in cancer and aging in zebrafish

Miguel Godinho Ferreira [20'+5']

Presenter affiliation: Instituto Gulbenkian de Ciencia, Oeiras, Portugal.

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**Robust telomerase activity in stimulated T-cells indicates less
age-related impairment of immune responses in centenarians**

Ejun Huang, Enzo Tedone, Ryan O'Hara, Crystal Cornelius, Woodring
E. Wright, Jerry W. Shay [12'+3']

Presenter affiliation: University of Texas Southwestern Medical Center,
Dallas, Texas.

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Coffee/Tea Break

**Proliferation of melanoma metastases in the absence of telomere
maintenance mechanism**

Nikenza Viceconte, Marie-Sophie Dheur, Christophe Pierreux, Nicolas
van Baren, Anabelle Decottignies [20'+5']

Presenter affiliation: Genetic and Epigenetic Alterations of Genomes,
de Duve Institute, Brussels, Belgium.

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**Cancer-associated TERT promoter mutations abrogate
telomerase silencing**

Kunitoshi Chiba, Franziska Lorbeer, Dirk Hockemeyer [20'+5']

Presenter affiliation: University of California, Berkeley, Berkeley,
California.

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Poly(A)-specific ribonuclease (PARN) and telomere biology disorders

Mikael Nissbeck, Sethu Gunja, Sangeetha Boopalan, Andrew Emmerich, Filip Mihalic, Santhosh Dhanraj, Yigal Dror, Anders Virtanen [12'+3']

Presenter affiliation: Uppsala University, Uppsala, Sweden.

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WEDNESDAY, September 7—9:00 AM

SESSION 5 **TELOMERASE STRUCTURE AND REGULATION**

Chairperson: **Sandy Chang**, Yale University School of Medicine, New Haven, Connecticut, USA
Yong Zhao, Sun Yat-Sen University, Guangzhou, China

In and out of the sno-storm—Why is vertebrate telomerase an H/ACA RNP?

Jacob Vogan, Xiaozhu Zhang, Daniel Youmans, Samuel Regalado, Joshua Johnson, Dirk Hockemeyer, Kathleen Collins [20'+5']

Presenter affiliation: UC Berkeley, Berkeley, California.

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Structural biology of *Tetrahymena* telomerase

Juli Feigon [20'+5']

Presenter affiliation: UCLA, Los Angeles, California.

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Structural basis of telomerase recruitment in budding yeast

Jing Xue, Jian Wu, Hongwen Chen, Lijie Wu, Rongguang Zhang, Ming Lei [20'+5']

Presenter affiliation: Shanghai Institutes for Biological Sciences, Chinese Academy of Sciences, Shanghai, China.

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Coffee / Tea Break

Identification of new somatic stem cell populations expressing telomerase

Shengda Lin, Elisabete Nascimento, Patrick Nascimento, Chandresh Gajera, Matthew Pech, Alina Garbuzov, Steven Artandi [20'+5']

Presenter affiliation: Stanford University School of Medicine, Stanford, California.

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Repression of telomerase gene promoter requires human-specific genomic context and is mediated by multiple HDAC1-containing corepressor complexes

De Cheng, Fan Zhang, Tao Xu, Chloe A. Dugger, Shuwen Wang, Jiyue Zhu [12'+3']

Presenter affiliation: Washington State University, Spokane, Washington.

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Tumor cells derived exosomes contain hTERT mRNA and transform nonmalignant fibroblasts into telomerase positive cells

Orit Uziel, Anna Gutkin, Einat Beery, Maria Pinchasi, Hadar Goldvaser, Meir Lahav [12'+3']

Presenter affiliation: Rabin Medical Center, Petah-Tikva, Israel; Tel-Aviv University, Petah-Tikva, Israel.

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Modulating alternative splicing of TERT pre-mRNA rejuvenates senescence of bone marrow mesenchymal stem cells by up-regulating Sirt6 and suppresses neuro-inflammation and oxidative stress in vascular dementia rats

Guangming Chang, Qian Yu, Tiantian Liu, Xin Geng [12'+3']

Presenter affiliation: Tianjin Medical University, Tianjin, China

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WEDNESDAY, September 7—2:00 PM

Visit to Old Suzhou

WEDNESDAY, September 7—7:00 PM

SESSION 6 TELOMERE REPLICATION AND LENGTH REGULATION

Chairperson: **Fuyuki Ishikawa**, Kyoto University, Japan
 Agnel Sfeir, New York University School of Medicine,
 New York, USA

NHEJ-mediated looping-out mechanism for resolution of replication fork stalling at telomeres

Tianpeng Zhang, Yong Zhao [20'+5']

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

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Rad6-Bre1 mediated H2B ubiquitination regulates telomere replication by promoting telomere-end resection

Zhen-fang Wu, Jun Liu, Qiong-Di Zhang, Nian-Feng Wu, De-Kang Lv, Jin-Qiu Zhou [12'+3']

Presenter affiliation: Institute of Biochemistry and Cell Biology, Shanghai Institutes for Biological Sciences, Chinese Academy of Sciences, Shanghai, China; Shanghai Tech University, Shanghai, China.

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Coffee / Tea Break

RECQ4 restarts stalled replication fork at telomere through the interaction with CST

Jinghua Yuan, Feng Wang [12'+3']

Presenter affiliation: Tianjin Medical University, Tianjin, China.

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Replication stress induces DNA synthesis in mitosis at telomeres

Özgün Özer, Ying Liu, Ian D. Hickson [12'+3']

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

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TZAP—A novel telomere-associated protein involved in telomere length control

Julia Su Zhou Li, Tatevik Simavorian, Javier Miralles Fuste, Cristina Bartocci, Jan Karlseder, Eros Lazzerini Denchi [12'+3']

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

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THURSDAY, September 8—9:00 AM

SESSION 7 **TELOMERE RECOMBINATION AND ALT**

Chairperson: **Tracy Bryan**, Children's Medical Research Institute, Westmead, Australia
Miguel Ferreira, Instituto Gulbenkian de Ciencia, Oeiras, Portugal

Role of the nuclear pore complex in preventing telomere recombination

Paula Aguilera, Dmitri Churikov, Marie-Noelle Simon, Vincent Geli [20'+5']

Presenter affiliation: CNRS-Inserm, Marseille, France.

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Extra-chromosomal telomere repeat DNA triggers type I interferon response and inhibits cell proliferation of human fibroblasts, but not ALT cancer cells

Lih-yow Chen, Yi-An Chen [12'+3']

Presenter affiliation: Academia Sinica, Taipei, Taiwan.

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The BTR complex is required for recombination-directed replication in alternative lengthening of telomeres

Alexander P. Sobinoff, Joshua A. Allen, Christopher G. Tomlinson, Hilda A. Pickett [12'+3']

Presenter affiliation: Children's Medical Research Institute, Westmead, Australia.

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Coffee / Tea Break

Break-induced telomere synthesis underlies homology-directed telomere maintenance

Robert L. Dilley, Priyanka Verma, Nam Woo Cho, Roger Greenberg [20'+5']

Presenter affiliation: University of Pennsylvania, Philadelphia, Pennsylvania.

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Mismatch repair is involved in telomere maintenance of ALT cancer cells

Despoina Sakellariou, Sara T. Bak, Javier Pena-Diaz [12'+3']

Presenter affiliation: University of Copenhagen, Faculty of Health Sciences, Copenhagen, Denmark.

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A new fungal model of ALT recapitulates the telomere features of ALT cancer cells and identifies essential and regulatory factors in the pathway

Eun Young Yu, José Pérez-Martín, William Holloman, Neal F. Lue [12'+3']

Presenter affiliation: Weill Cornell Medicine, New York, New York.

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SESSION 8 MECHANISMS OF TELOMERE PROTECTION

Chairperson: **Dirk Hockemeyer**, University of California, Berkeley, USA
Vincent Geli, Research Center of Cancerology of
Marseille, INSERM, France

An activity-independent role of telomerase in telomere protection involving Hsp70 and Apollo

Tracy M. Bryan, Omesha N. Perera, Erdahl T. Teber, Michelle F. Maritz, Sile F. Yang, Alexander P. Sobinoff, Hilda A. Pickett, Anthony J. Cesare, Jonathan W. Arthur, Karen L. MacKenzie [20'+5']
Presenter affiliation: Children's Medical Research Institute, Westmead, Australia.

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Understanding how the TRF2 TRFH domain represses DNA damage responses at telomeres

Rekha Rai, Yong Chen, Ming Lei, Sandy Chang [20'+5']
Presenter affiliation: Yale University School of Medicine, New Haven, Connecticut.

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Nek7 protects telomeres from oxidative DNA damage by phosphorylation and stabilization of TRF1

Rong Tan, Ming Lei, Bing Su, Li Lan [12'+3']
Presenter affiliation: University of Pittsburgh Cancer Institute, Pittsburgh, Pennsylvania.

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Coffee / Tea Break

Shelterin protects chromosome ends by compacting telomeric chromatin

Jigar N. Bandaria, Ahmet Yildiz [20'+5']
Presenter affiliation: University of California, Berkeley, Berkeley, California.

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A genetic interaction between RAP1 and telomerase reveals an unanticipated role for RAP1 in telomere maintenance

Paula Martinez, Gonzalo Gomez-lopez, David G. Pisano, Maria Blasco [12'+3']
Presenter affiliation: CNIO, Madrid, Spain.

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TRF2 attenuates the DNA damage response during brain development and aging by increasing the expression of PPP2R2C, a gene encoding a regulatory subunit of protein phosphatase 2A

Jun Xing, Yilin Ying, Waiian Leong, Xiuyun Zhai, Peng Han, Bohua Wei, Cuicui Wang, Lianxiang Chen, Eric Gilson, Jing Ye [12'+3']
Presenter affiliation: Shanghai Ruijin Hospital, Shanghai, China.

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THURSDAY, September 8—6:00 PM

COCKTAILS and BANQUET

FRIDAY, September 9—9:00 AM

SESSION 9 TELOMERE AND CHROMOSOME STABILITY

Chairperson: **Anabelle Decottignies**, Catholic University of Louvain, Belgium
Mary Armanios, Johns Hopkins University, Baltimore, Maryland, USA

Roles of Tet enzymes in telomere maintenance, chromosomal stability and aging

Lin Liu [20'+5']

Presenter affiliation: Nankai University, Tianjin, China.

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Guanine quadruplex structures, stem cells and genome stability

Peter M. Lansdorp [20'+5']

Presenter affiliation: University Medical Center, Groningen, Netherlands; BC Cancer Research Center, Vancouver, Canada.

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RTEL1 DNA helicase is required for the maintenance of genomic stability in somatic stem cells

Xiaoli Wu, Hao Ding [12'+3']

Presenter affiliation: University of Manitoba, Winnipeg, Canada.

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Coffee / Tea Break

Investigating the interplay between polymerase theta and RPA1 during DNA double-strand break repair

Pedro A. Mateos-Gomez, Agnel Sfeir [20'+5']

Presenter affiliation: NYU School of Medicine , New York, New York. 65

Stn1 functions at non-telomeric regions in fission yeast

Masahiro Takikawa, Io Yamamoto, Fuyuki Ishikawa [20'+5']

Presenter affiliation: Kyoto University, Graduate School of Biostudies, Kyoto, Japan. 66