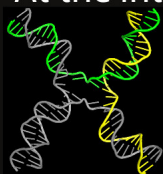




At the Intersection of **DNA** Replication and Genome Maintenance: **2016**
from Mechanisms to Therapy



27 June - 1 July - Trieste, Italy

PRELIMINARY PROGRAMME

Monday 27th June

13.00 Registration

17.00 Welcome Address

Mauro Giacca (ICGEB Director-General, Trieste)

17.25-19.25 **Basic mechanisms at the replication fork**
Session chair: James Berger (Johns Hopkins, Baltimore)

17.25 **Karim Labib** (University of Dundee)
The end of chromosome replication

17.50 **Luca Pellegrini** (University of Cambridge)
A biochemical and structural analysis of the interaction of human Cdc45 with Treslin

18.05-18.20 Short Break

18.20 **Juan Mendez** (Spanish National Cancer Res. Center, Madrid)
Addressing the functions of mammalian PrimPol protein

18.45 **Michael O'Donnell** (Rockefeller University, New York)
Architecture and function of the eukaryotic replisome

19.10 **Alessandro Costa** (Francis Crick Institute, London)
A conformational switch in the CMG-Pol epsilon assembly

19.30 Welcome Reception

Tuesday 28th June

8.30-10.30 **Replication-repair interface I**
Session chair: Agata Smogorzewska (Rockefeller University, New York)

8.30 **Dana Branzei** (IFOM, Milan)
SUMO-mediated global and local control of recombination during replication

8.55 **Antonio Porro** (University of Zurich)
A FAN1-dependent repair pathway processes G-quadruplex structures at replication forks and contributes to telomere maintenance

9.10 **Peter Burgers** (Washington University, St. Louis)
The inner workings of the lagging strand maturation machinery

9.35 **Amaia Ercilla** (University of Barcelona)
Acute replication stress-induced fork remodeling occurs with replisome components displacement but without their dissociation from chromatin and does not compromise fork restart

9.50 **Karla Mettrick** (University of Newcastle, Callaghan)
DNA replication fork processing and recovery in living Escherichia coli cells

10.05 **Justin Sparks** (Harvard Medical School, Boston)
CMG can bypass a leading-strand covalent DNA-protein complex

10.20-11.00 Coffee Break

11.00-12.35 **Replication-repair interface II**
Session chair: Dana Branzei (IFOM, Milan)

- 11.00 **Agata Smogorzewska** (Rockefeller University, New York)
ICL repair-aldehyde detoxification and ICL repair-NHEJ pathway interactions
- 11.25 **Puck Knipscheer** (Hubrecht Institute, Utrecht)
How does the Fanconi pathway promote unhooking of DNA interstrand crosslinks?
- 11.50 **Paolo Swuec** (Francis Crick Institute, London)
Structural basis for the Fanconi anemia ICL repair pathway activation
- 12.05 **Andrew Seeber** (Friedrich Miescher Institute, Basel)
RPA recruits MRX to forks and breaks to hold replicated sister chromatids together
- 12.20 **Delphine Lemacon** (Saint Louis University)
Mechanisms of DNA replication fork resection in BRCA1 and BRCA2 deficient cells
- 12.35 **Lorena Zentilin** (ICGEB, Trieste)
Genome-wide siRNA screening highlights the role of cellular DNA-damage response in modulating AAV transduction

12.50-14.15 Light Lunch

14.15-16.30 Free Time

16.30-18.15 **Replication fork remodeling**
Session chair: Massimo Lopes (University of Zurich)

- 16.30 **Tony Carr** (University of Sussex, Falmer)
Mechanisms of replication-associated genome rearrangement
- 16.55 **David Cortez** (Vanderbilt University, Nashville)
ETAA1 regulates ATR to maintain genome stability during DNA replication
- 17.20 **Philippe Pasero** (Institute of Human Genetics, Montpellier)
SAMHD1 processes stalled forks and links DNA replication stress to inflammation
- 17.45 **Marko Vujanovic** (University of Zurich)
PCNA poly-ubiquitination and ZRANB3 mediate replication fork slowing and reversal upon genotoxic stress
- 18.00 **Hocine Mankouri** (University of Copenhagen)
Analysis of replication-associated mutagenesis at a single stalled replication fork

18.15 - 20.15 **Poster Session I (refreshments)**
even-numbered abstracts

Free dinner/evening

Wednesday 29th June

8.30-10.25 **Structural and single molecule analysis of replication / repair**
Session chair: Johannes Walter (Harvard Medical School, Boston)

- 8.30 **Antoine van Oijen** (University of Wollongong)
Single-molecule studies of DNA replication: the plasticity of the replisome
- 8.55 **Steve Kowalczykowski** (University of California, Davis)
Single-molecule visualization of DNA recombination and replication, one molecule at a time
- 9.20 **Logan Myler** (The University of Texas at Austin)
Single-molecule imaging reveals how the Mre11/Rad50/Nbs1 complex coordinates the early stages of DNA double strand break repair
- 9.35 **Wei Yang** (NIDDK, NIH, Bethesda)
Molecular gymnastics during DNA translesion synthesis
- 10.00 **'Elettra Sincrotrone Trieste' lecture**
James Berger (Johns Hopkins, Baltimore)
Structural mechanisms for initiating DNA replication

10.25-10.55 Coffee Break

10.55-12.30 **Replication-transcription interface**
Session chair: Philippe Pasero (Institute of Human Genetics, Montpellier)

- 10.55 **Karlene Cimprich** (Stanford University)
RNA meets DNA: novel mechanisms for RNA-induced genome instability
- 11.20 **Angelos Constantinou** (Institute of Human Genetics, Montpellier)
A FANCM protein interaction screen reveals a pyrimidine catabolism enzyme required to prevent cell-intrinsic DNA replication stress
- 11.45 **Eva Petermann** (University of Birmingham)
Increased global transcription activity as a mechanism of oncogene-induced replication stress
- 12.00 **Cosetta Bertoli** (University College London)
E2F-dependent G1/S transcription is required to tolerate oncogene-induced replication stress
- 12.15 **Fumiko Esashi** (University of Oxford)
Role of BRCA1-independent PALB2 chromatin association

12.30-14.00 Lunch

14.00-16.30 **Replication-recombination interface**
Session chair: Jiri Lukas (University of Copenhagen)

- 14.00 **Steve West** (Francis Crick Institute, London)
Activation of MUS81 structure-selective endonuclease by formation of the SMX complex
- 14.25 **Pavel Jancsak** (University of Zurich)
RECQ5 DNA helicase promotes MUS81-mediated processing of late replication intermediates in mitosis
- 14.40 **Boris Pfander** (Max Planck Institute of Biochemistry, Martinsried)
Novel regulators in the cell cycle control of JM resolution by Mus81-Mms4

14.55-15.10 Short Break

- 15.10 **Maria Jasin** (Memorial Sloan-Kettering CC, New York)
Protecting the genome by homologous recombination: roles of the BRCA2 tumor suppressor
- 15.35 **Vincenzo Costanzo** (IFOM, Milan)
Dissecting the role of BRCA2, Rad51 paralogs and SMARCAL1 in vertebrate DNA replication
- 16.00 **Alberto Ciccia** (Columbia University, New York)
Restoration of fork stability in BRCA1- and BRCA2-deficient cells
- 16.15 **Michael Cox** (University of Wisconsin-Madison)
DNA flap creation by the MgsA/RarA protein of Escherichia coli

16.30-20.00 Free Time – see www.icgeb.org/programme-779.html for suggested excursions

20.00 – 22.00 **Poster Session II (Wine & Cheese)**
odd-numbered abstracts

Thursday 30th June

8.30-10.15 **Chromatin, replication and genome maintenance**
Session chair: Karlene Cimprich (Stanford University)

- 8.30 **Anja Groth** (University of Copenhagen)
Chromatin replication: a histone reader based mechanism to identify post-replicative chromatin
- 8.55 **Iestyn Whitehouse** (Memorial Sloan-Kettering CC, New York)
Coupling of gene enhancers and replication origins
- 9.20 **Jiri Lukas** (University of Copenhagen)
Limits and thresholds of protein pathways that protect integrity of replicating genomes
- 9.45 **Sujan Devbhandari** (Memorial Sloan-Kettering CC, New York)
An essential role for chromatin during budding yeast DNA replication reconstituted with purified proteins
- 10.00 **Tatsuro Takahashi** (Osaka University)
Chromatin remodeling facilitates eukaryotic mismatch repair by promoting the displacement of nucleosomes around mismatches

10.15-10.45 Coffee Break

10.45-12.40 **Difficult-to-replicate loci and telomeres**
Session chair: David Cortez (Vanderbilt University, Nashville)

- 10.45 **Ginger Zakian** (Princeton University)
Pop proteins affect the abundance of telomerase RNA and telomere length
- 11.10 **Titia de Lange** (Rockefeller University, New York)
Shelterin does not protect telomere-internal DSBs from ATM signaling and DNA repair
- 11.35 **Sergei Mirkin** (Tufts University, Medford)
Mechanisms of genome instability mediated by interstitial telomeric sequences
- 12.00 **Eric J. Brown** (University of Pennsylvania, Philadelphia)
Potent and selective ATR inhibitors for the treatment of PARPi-resistant cancers
- 12.25 **Stefan Schoeftner** (LNCIB/University of Trieste)
TERRA binding proteins control RNA:DNA hybrid formation at telomeres

12.40-14.00 Light Lunch

14.00-17.30 Free Time

17.30-19.55 **Replication stress in cancer onset and therapy**
Session chair: Alessandro Vindigni (Saint Louis University)

- 17.30 **Andre Nussenzweig** (NIH, Bethesda)
Replication fork stability confers chemoresistance in BRCA-deficient cells
- 17.55 **Oscar Fernandez-Capetillo** (Spanish National Cancer Res. Center, Madrid)
Mechanisms of resistance to anticancer therapies
- 18.20 **Mareike Herzog** (Wellcome Trust Sanger Institute, Cambridge)
POLE and POLD1 mutations found in cancers cause distinct mutational patterns and are synthetic lethal with mismatch repair

18.35-18.50 Short Break

- 18.50 **Thanos Halazonetis** (University of Geneva)
Mechanisms of oncogene-induced DNA replication stress
- 19.15 **Thomas Helleday** (Karolinska Institute, Stockholm)
Poisoning replication with oxidized nucleotides as cancer treatment
- 19.40 **Gro Elise Rødland** (Oslo University Hospital)
Synergistic S-phase DNA damage by combined inhibition of Wee1/Chk1 or Wee1/ATR checkpoint kinases

20.30 Social Dinner

Closing cocktails offered by  **NONINO**
Distillatori in Friuli dal 1897

Friday 1st July

Departures



University of Zurich
UZH



Elettra Sincrotrone Trieste



ELSEVIER



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