

Program 5th AEK Autumn School - Replication Stress in Cancer

Approximate slot length:

- invited speakers: 35 min (25+10)
- young scientists: 25 min (15+10)

November 23, 2020

09:45 – Welcome

Rainer Engers (Düsseldorf, Germany) on behalf of the AEK

Lisa Wiesmüller (Ulm, Germany)

Session 1: Replication stress in the hematopoietic system

(Chair: Lisa Wiesmüller, Ulm, Germany)

- 10:00 – 10:35 **Michael Milyavsky** (Tel Aviv, Israel):

Regulation of DNA damage response in normal and malignant hematopoietic stem cells

- 10:35 – 11:00 **Susanne Lux** (Heidelberg, Germany - PhD):

Genetic rescue of Fanca^{-/-} HSPCs with EVI-1 overexpression suggests a mechanistic link with DNA damage response

Session 2: Non-canonical roles of p53 and MDM2

(Chair: Vanesa Gottifredi, Buenos Aires, Argentina)

- 11:00 – 11:35 **Lisa Wiesmüller** (Ulm, Germany):

The tip of an iceberg: replication-associated functions of the tumor suppressor p53 and

Stephanie Biber (Ulm, Germany - PhD):

Multiple biochemical properties of the p53 molecule contribute to activation of POL ι -dependent DNA damage tolerance

- 11:35 – 12:00 **Michaela Ihle** (Ulm, Germany):

Impact of the interplay between stemness features, p53 and POL ι on replication pathway choices

- 12:00 – 12:25 **Matthias Dobbstein** (Göttingen, Germany):

The interplay of p53 and Mdm2 in the context of DNA replication

- 12:25 – 13:00 **Celeste Giansanti & Valentina Manzini** (Göttingen, Germany):

MDM2 promotes restart of reversed replication forks by interacting with PARP1

13:00 – 14:00 Lunch

Session 3: Crosstalk between DNA repair, replication and transcription

(Chair: Lisa Wiesmüller, Ulm, Germany)

- 14:00 – 14:35 **Alex Sartori** (Zürich, Switzerland):

Distinct roles of CtIP in repairing DNA double strand breaks and limiting replication stress

- 14:35 – 15:10 **Joanna Morris** (Birmingham, United Kingdom):

Chromatin ubiquitination supports FEN1-WRN alleviation of replication stress

- 15:10 – 15:35 **Franziska Gehringer** (Ulm, Germany - PhD):

FOXO3 expression is essential for the survival of Burkitt Lymphoma

- 15:35 – 16:00 **Sonja Krausert** (Heidelberg, Germany):

Targeting replication stress in pediatric brain tumors

- 16:00 – 16:25 **Isabelle Röschert** (Würzburg, Germany):

Aurora-A suppresses transcription-replication conflicts in MYCN-driven neuroblastoma

- 16:25 – 17:00 **Philippe Pasero** (Montpellier, France):

Causes and consequences of endogenous replication stress

November 24, 2020

Session 4: Safeguarding the fork and adaptation

(Chair: Matthias Dobbstein, Göttingen, Germany)

- 09:00 – 09:35 **Helmut Pospiech (Jena, Germany):**

Fifty shades of replication stress

09.35 – 10.00 **Gleice Borges** (Jena, Germany):

Role of RAD18 in replication stress adaptation and tissue homeostasis

- 10:00 – 10:35 **Claus Sørensen (Copenhagen, Denmark):**

Pathways ensuring faultless cell proliferation: Uncovering new tumor suppressors

10.35 – 11.00 **Sandra Classen** (Hamburg, Germany):

The adaptive resistome in triple-negative breast cancer: functional targeting in patient-derived organoids and cell lines

11.00 – 11.25 **Akram Hamidi** (Essen, Germany - PhD):

Analysis of growth and radiation sensitivity of HIF-1A deficient cultured murine hepatocytes

Session 5: Cell cycle control and underreplicated DNA

(Chair: Claus Sørensen, Copenhagen, Denmark)

- 11.25 – 12.00 **Vanessa Gottifredi (Buenos Aires, Argentina):**

Chromosome instability: an enemy or an ally against cancer?

12.00 – 12.25 **Nicolás Calzetta** (Buenos Aires, Argentina):

Molecular bases of the genomic instability triggered by incomplete MIDAS in Chk1 deficient backgrounds

12.25 – 12.50 **Audrey Lumeau** (Toulouse, France):

A new role for cytidine deaminase in the control of DNA replication and genome stability in pancreatic cancer cells

- 12.50 – 13.15 **Kanstantsin Siniuk** (Jena, Germany - PhD):

Poly(ADP-ribose) regulation of Chk1 in cell cycle control and cancer therapy

13:15 – 14:00 Lunch

Session 6: Helicases

(Chair: Helmut Pospiech, Jena, Germany)

- 14:00 – 14:35 **Francesca Pisani** (Naples, Italy):

Exploring the role of DDX11 and FANCD1 DNA helicases in counteracting replication stress

14.35 – 15.00 **Sara Egea-Rodriguez** (Essen, Germany):

Role of DNA helicases in survival and progression of cancer patients – a bioinformatics analysis

Session 7: Strategies to overcome resistance

(Chair: Helmut Pospiech, Jena, Germany)

15.00 – 15.25 **Julia Mann** (Düsseldorf, Germany):

Targeting mechanisms of the DNA damage response to overcome cisplatin resistance

15.25 – 15.50 **Natalie Bublitz** (Berlin, Germany):

Modeling vulnerability of KRAS and BRAF mutant colorectal cancer towards interference with DNA damage response

15.50 – 16.15 **Linda van Bijsterveldt** (Oxford, United Kingdom):

Regulation of E2F target gene expression in the replication stress response

- 16.15 – 16.50 **Eric J Brown (Philadelphia, USA):** Genomic potholes in the road to replication

16:50 Award Ceremony & Farewell