



### Conference Co-Chairpersons

Alan D. D'Andrea, Dana-Farber Cancer Institute, Boston, MA  
Phillip A. Dennis, Johns Hopkins University, Baltimore, MD  
Pier Paolo Pandolfi, Beth Israel Deaconess Medical Center, Boston, MA

The study of rare human genetic cancer susceptibility syndromes has led to a broader view of cancer pathogenesis, diagnosis, and treatment in the general population. The systematic study of rare cancer-prone families has elucidated a complex network of cancer proteins and tumor suppressors, many of which function in DNA repair, cell cycle checkpoint control, and telomere maintenance. The primary focus of this AACR Special Conference was the cooperation of cancer susceptibility proteins in tumor initiation, progression, and metastasis; how mechanisms of control of mRNA/Protein Translation, when dysregulated, can lead to tumorigenesis; and how cancer susceptibility syndromes have elucidated new cell regulatory pathways.

The AACR thanks the following organizations for their generous support of the travel awards provided at this conference.

### Award Supporters



Center to  
Reduce  
Cancer Health  
Disparities



## Conference Program

**WEDNESDAY, JANUARY 29**

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### **OPENING SESSION / KEYNOTE TALKS**

7:30 p.m.-8:30 p.m.

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|-----------|---|
| 7:30-7:45 | Introductions/Welcome from Co-Chairpersons  |
| 7:45-8:30 | <b>Gene regulatory network approaches to interpreting breast cancer GWAS results</b><br>Bruce Ponder, Cancer Research UK, Cambridge, United Kingdom |

### **OPENING RECEPTION**

8:30 p.m.-10:00 p.m.

**THURSDAY, JANUARY 30**

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### **BREAKFAST**

7:30 a.m.-8:30 a.m.

### **PLENARY SESSION 1: CANCER SUSCEPTIBILITY**

8:30 a.m.-10:15 a.m.

*Session Chairperson: Allan Balmain, UCSF Helen Diller Family Comprehensive Cancer Center, San Francisco, CA*

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|-------------|--|
| 8:30-9:00   | <b>Genetic network analysis of cancer susceptibility</b><br>Allan Balmain  |
| 9:00 -9:30  | <b>DICER1: From ontogenesis to oncogenesis</b><br>William D. Foulkes, McGill University, Montreal General Hospital, Montreal, QC, Canada   |
| 9:30-10:00  | <b>Clonal evolution of hematopoiesis in inherited bone marrow failure syndromes</b><br>Monica Bessler, Children's Hospital of Philadelphia, University of Pennsylvania, Philadelphia, PA |
| 10:00-10:15 | Discussion / Q&A   |

### **BREAK**

10:15 a.m.-10:30 a.m.

## PLENARY SESSION 2: FANCONI ANEMIA / BRCA2

10:30 a.m.-12:15 p.m.

*Session Chairperson: Markus Grompe, Oregon Health & Science University, Portland, OR*

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|-------------|--|
| 10:30-11:00 | <b>Fanconi's anemia: Emerging therapeutic opportunities</b><br>Markus Grompe   |
| 11:00-11:30 | <b>Toxic aldehydes and the in vivo function of the FA repair pathway</b><br>Ketan J. Patel, MRC Laboratory of Molecular Biology, Cambridge, United Kingdom |
| 11:30-12:00 | <b>Double-strand break repair and tumor suppression</b><br>Maria Jasin, Memorial Sloan-Kettering Cancer Center, New York, NY                               |
| 12:00-12:15 | Discussion / Q&A   |

## POSTER SESSION / LUNCH

12:15 p.m.-3:00 p.m.

## PLENARY SESSION 3: COWDEN AND TSC SYNDROMES

3:00 p.m.-4:45 p.m.

*Session Chairperson: Elizabeth P. Henske, Brigham and Women's Hospital, Boston, MA*

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|-----------|---|
| 3:00-3:30 | Title to be announced<br>Pier Paolo Pandolfi, Beth Israel Deaconess Medical Center, Boston, MA  |
| 3:30-4:00 | <b>PTEN and PI3K signaling in brain development and disease</b><br>Suzanne J. Baker, St. Jude Children's Research Hospital, Memphis, TN |
| 4:00-4:30 | <b>Tuberous sclerosis and LAM: Targeting mTOR-dependent metabolic dependencies</b><br>Elizabeth P. Henske                               |
| 4:30-4:45 | Discussion / Q&A  |

## EVENING OFF / DINNER ON OWN

4:45 p.m.-

**FRIDAY, JANUARY 31**

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**BREAKFAST**

7:30 a.m.-8:30 a.m.

**PLENARY SESSION 4: DNA DAMAGE RESPONSE / P53-ASSOCIATED SYNDROMES**

8:30 a.m.-10:45 a.m.

*Session Chairperson: David Malkin, University of Toronto Hospital for Sick Children, Toronto, ON, Canada*

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|-------------|---|
| 8:30-9:00   | <b>Li-Fraumeni syndrome: p53 and beyond</b><br>David Malkin   |
| 9:00-9:30   | <b>New insights into DNA double-strand break responses</b><br>Michael B. Kastan, Duke Cancer Institute, Durham, NC  |
| 9:30-10:00  | <b>Regulation of the RNF168-dependent response to DNA double-strand breaks</b><br>Daniel Durocher, Samuel Lunenfeld Research Institute, Toronto, ON, Canada |
| 10:00-10:30 | <b>P53-induced bone marrow failure syndromes</b><br>Alan D. D'Andrea, Dana-Farber Cancer Institute, Boston, MA  |
| 10:30-10:45 | Discussion / Q&A  |

**BREAK**

10:45 a.m.-11:00 a.m.

**PLENARY SESSION 5: CHEMOPREVENTION**

11:00 a.m.-12:45 p.m.

*Session Chairperson: Phillip A. Dennis, Johns Hopkins University, Baltimore, MD*

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|-------------|--|
| 11:00-11:30 | Title to be announced<br>Phillip A. Dennis   |
| 11:30-12:00 | <b>Risk reduction in hereditary breast cancer syndromes</b><br>Judy Garber, Dana-Farber Cancer Institute, Boston, MA   |
| 12:00-12:30 | <b>Amelioration of ionizing irradiation damage in Fanconi anemia (Fancd2<sup>-/-</sup> mice) by GS-Nitroxide (JP4-039)</b><br>Joel S. Greenberger, University of Pittsburgh Shadyside Medical Center, Pittsburgh, PA |
| 12:30-12:45 | Discussion / Q&A   |

**LUNCH ON OWN / FREE TIME**

12:45 p.m.-3:00 p.m.

## PLENARY SESSION 6: OTHER SYNDROMES

3:00 p.m.-4:45 p.m.

*Session Chairperson: Laura J. Niedernhofer, The Scripps Research Institute, Jupiter, FL*

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|-----------|---|
| 3:00-3:30 | Title to be announced<br>Laura J. Niedernhofer  |
| 3:30-4:00 | <b>Identification of pathways that prevent genome instability</b><br>Richard D. Kolodner, Ludwig Institute for Cancer Research, UCSD School of Medicine, La Jolla, CA |
| 4:00-4:30 | <b>Molecular basis for cancer predisposition in Bloom's syndrome</b><br>Ian D. Hickson, University of Copenhagen, Copenhagen, Denmark                                 |
| 4:30-4:45 | Discussion / Q&A  |

## EVENING OFF / DINNER ON OWN

4:45 p.m.-

## SATURDAY, FEBRUARY 1

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### BREAKFAST

7:15 a.m.-8:15 a.m.

## PLENARY SESSION 7: AGING-, TELOMERE-, AND RIBOSOME-RELATED SYNDROMES

8:15 a.m.-10:00 a.m.

*Session Chairperson: Inderjeet S. Dokal, Barts and the London School of Medicine and Dentistry, London, United Kingdom*

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|------------|---|
| 8:15-8:45  | <b>Dyskeratosis congenita and related syndromes</b><br>Inderjeet S. Dokal   |
| 8:45-9:15  | <b>A telomere-dependent DNA damage checkpoint induced by prolonged mitotic arrest</b><br>Jan Karlseder, Salk Institute for Biological Studies, La Jolla, CA |
| 9:15-9:45  | <b>Age-related aneuploidization in cancer, aging, and senescence</b><br>Jan M. van Deursen, Mayo Clinic, Rochester, MN                                      |
| 9:45-10:00 | Discussion / Q&A  |

### BREAK

10:00 a.m.-10:15 a.m.

**PLENARY SESSION 8: BRCA1**

10:15 a.m.-11:30 a.m.

*Session Chairperson: Andre Nussenzweig, National Cancer Institute-CCR, Bethesda, MD*

10:15-10:45

**Role of BRCA1 in genome stability**

Andre Nussenzweig

10:45-11:15

**The BRCA1 tumor suppressor network**

Roger A. Greenberg, University of Pennsylvania, Philadelphia, PA

11:15-11:30

Discussion / Q&A

**CLOSING REMARKS / DEPARTURE**

11:30 a.m.