

AGENDA

Thursday – September 18, 2014

3:00 **Symposium check-in & registration opens**
 Grand Foyer

4:00 - 6:00 ***FA 101: An Introduction to the Medicine & Biology of Fanconi Anemia***
 Grand Ballroom Salons A-D

Note: This session is intended for those new to Fanconi anemia research and clinical care. However, all meeting participants interested in an overview of unanswered questions and new research and clinical directions in Fanconi anemia are encouraged to attend.

Introductions:

Eva Guinan, MD

Chair, 26th Annual Fanconi Anemia Scientific Symposium

Scientific Advisory Board, Fanconi Anemia Research Fund
Dana-Farber Cancer Institute, Boston, Massachusetts

Faculty:

John Wagner, MD

University of Minnesota, Minneapolis, Minnesota

Stephen Meyn, MD, PhD

Scientific Advisory Board, Fanconi Anemia Research Fund
The Hospital for Sick Children, Toronto, Canada

Special Speaker:

Francis Collins, MD, PhD

Director, National Institutes of Health, Bethesda, Maryland

6:00 - 8:00 { **Welcome Reception**
 { **Poster Viewing**
 Grand Ballroom Salon E
 Presenters in odd-numbered poster sections will be at their posters 6:00-7:00.
 Presenters in even-numbered poster sections will be at their posters 7:00-8:00.

Friday – September 19, 2014

7:00 - 8:00 { **Breakfast Buffet**
 { *Grand Ballroom Salons F-H*
 Poster Viewing
 Grand Ballroom Salon E

Plenary Session
Grand Ballroom Salons A-D

8:00 - 8:25 **Welcome**
David Frohnmayer, JD
Co-founder and Advisor, Board of Directors
Fanconi Anemia Research Fund, Eugene, Oregon

Introduction
Eva Guinan, MD
Scientific Advisory Board, Fanconi Anemia Research Fund
Dana-Farber Cancer Institute, Boston, Massachusetts

Session I: Head and Neck Squamous Cell Carcinoma: Malignant Transformation

Chair: Joseph Califano, MD
Scientific Advisory Board, Fanconi Anemia Research Fund
Johns Hopkins Medical Institutions, Baltimore, Maryland

8:25 - 8:30 **Session Overview: Joseph Califano, MD**

8:30 - 8:40 **Eunike Velleuer, MD**, Heinrich Heine University, Duesseldorf, Germany:
*Detection of Oral Lesions and DNA Aneuploidy in Transplanted vs. Non-transplanted
Fanconi Anemia Patients*

8:40 - 8:45 Questions and Answers

8:45 - 8:55 **Flavia Teles, DDS, MS, DMSc**, The Forsyth Institute, Cambridge,
Massachusetts: *Metabolomics and Microbial Profiling for the Identification of
Determinants of Oral Carcinogenesis in Fanconi Anemia*

8:55 - 9:00 Questions and Answers

9:00 - 9:10 **Ananth Annapragada, PhD**, Texas Children's Hospital, Houston, Texas:
*Tumor Cells with Stem-like Properties are Enriched in Fanconi Anemia Head and Neck
Squamous Cell Carcinomas*

9:10 - 9:15 Questions and Answers

9:15 - 9:25 **Anne Lombardi, MD**, Cincinnati Children's Hospital Medical Center,
Cincinnati, Ohio: *PARP Inhibitor Sensitivity and Relative Interstrand Crosslinker
Resistance in FA Head and Neck Squamous Cell Carcinomas*

9:25 - 9:30 Questions and Answers

9:30 - 9:35 **Session Wrap-up: Joseph Califano, MD**

Keynote Presentation: Environmental Carcinogenesis

- 9:35 - 9:40 **Introduction: Christopher Mathew, PhD**
Scientific Advisory Board, Fanconi Anemia Research Fund
King's College London, London, United Kingdom
- 9:40 - 10:00 **Christian C. Abnet, PhD, MPH**
National Cancer Institute, Division of Cancer Epidemiology & Genetics
Rockville, Maryland
- 10:00 - 10:10 Questions and Answers
- 10:10 - 10:15 **Wrap-up: Christopher Mathew, PhD**
- 10:15 - 10:35 **Break**

Session II: FA Proteins: Structure and Function

Chair: Alexandra Sobeck, PhD
University of Minnesota, Minneapolis, Minnesota

- 10:35 - 10:40 **Session Overview: Alexandra Sobeck, PhD**
- 10:40 - 10:50 **Charlotte Hodson, PhD**, St. Vincent's Institute of Medical Research,
Fitzroy, Australia: *Structural and Biochemical Investigation of FANCL Complexes:
Insight into Function of the FA Ubiquitination Reaction*
- 10:50 - 10:55 Questions and Answers
- 10:55 - 11:05 **Ronald Cheung, MD, PhD**, Fred Hutchinson Cancer Research Center,
Seattle, Washington: *Novel Insights into the Regulation of FANCI SQ Cluster
Domain Phosphorylation*
- 11:05 - 11:10 Questions and Answers
- 11:10 - 11:20 **Maria Castella, PhD**, Fred Hutchinson Cancer Research Center, Seattle,
Washington: *FANCI Regulates the Recruitment of the FA Core Complex at Sites of
DNA Damage in a Manner Independent of FANCD2*
- 11:20 - 11:25 Questions and Answers
- 11:25 - 11:35 **Jung-Eun Yeo, PhD**, University of Minnesota, Minneapolis, Minnesota:
*Separation of Function Between FANCD2 and FANCI During the Cellular
Replication Stress Response*
- 11:35 - 11:40 Questions and Answers

- 11:40 - 11:50 **Advaita Madireddy, PhD**, Albert Einstein College of Medicine, Bronx, New York: *FANCD2 Stabilizes Replication Forks and Prevents Genomic Instability at Common Fragile Site FRA16D*
- 11:50 - 11:55 Questions and Answers
- 11:55 - 12:05 **Wojciech Niedzwiedz, PhD**, University of Oxford, Oxford, United Kingdom: *Fanconi Anemia Pathway Limits Genome Instability Associated with Collision Between Replication and Transcription*
- 12:05 - 12:10 Questions and Answers
- 12:10 - 12:20 **Anaid Benitez, Graduate Student**, University of Miami, Miami, Florida: *FANCA Catalyzes DNA Single-Strand Annealing and Strand Exchange*
- 12:20 - 12:25 Questions and Answers
- 12:25 - 12:35 **Jaya Sarkar, PhD**, National Institute on Aging, NIH, Baltimore, Maryland: *SLX4 Toolkit is a Bona Fide Telomere-associated Maintenance Complex that Processes Telomere Secondary Structures*
- 12:35 - 12:40 Questions and Answers
- 12:40 - 12:45 **Session Wrap-up: Alexandra Sobeck, PhD**

- 12:45 - 2:00 { **Lunch Buffet**
Mentorship Lunch for Early Investigators
(See table assignment in packet if applicable.)
Lunch for Clinical Investigators
(See table assignment in packet if applicable.)
Grand Ballroom Salons F-H
Poster Viewing
Grand Ballroom Salon E

Session III: Experimental Hematology

Chair: Alan D'Andrea, MD

Dana-Farber Cancer Institute, Boston, Massachusetts

- 2:00 - 2:05 **Session Overview: Alan D'Andrea, MD**
- 2:05 - 2:15 **Michael Milsom, PhD**, Heidelberg Institute for Stem Cell Technology and Experimental Medicine, Heidelberg, Germany: *Stress-induced Bone Marrow Failure in Fanca^{-/-} Mice Correlates with Dynamic Changes in Specific Redox Couples*
- 2:15 - 2:20 Questions and Answers
- 2:20 - 2:30 **Tingting Zhang, PhD**, Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio: *Deletion of Faap20 Causes Erythropoietic Stress and Megakaryocyte-Erythrocyte Progenitor Depletion in Mice*
- 2:30 - 2:35 Questions and Answers

- 2:35 - 2:45 **Francisco Javier Molina, PhD**, CIEMAT/CIBERER/IIS-FJD, Madrid Spain: *Stable Engraftment and Continuous Turnover of Fanconi Anemia-A Mouse HSCs after Lentiviral Vector-Mediated Gene Therapy*
- 2:45 - 2:50 Questions and Answers
- 2:50 - 3:00 **Paula Rio, PhD**, CIEMAT/CIBERER/IIS-FJD, Madrid, Spain: *Gene Targeting-mediated Approaches for the Generation of Disease Free Fanconi Anemia Hematopoietic Precursor Cells*
- 3:00 - 3:05 Questions and Answers
- 3:05 - 3:10 **Session Wrap-up: Alan D'Andrea, MD**

Special Session: Solid Tumors

Chair: Grover Bagby Jr., MD
Scientific Advisory Board, Fanconi Anemia Research Fund
Oregon Health & Science University, Portland, Oregon

- 3:10 - 3:15 **Session Overview: Grover Bagby Jr., MD**
- 3:15 - 3:25 **David Kutler, MD, FACS**, Weill Cornell Medical Center, Presbyterian Hospital, New York, New York
- 3:25 - 3:30 Questions and Answers
- 3:30 - 3:50 **Break**
- 3:50 - 4:00 **Pamela Stratton, MD**, Eunice Kennedy Shriver National Institute of Child Health and Human Development, NIH, Bethesda, Maryland
- 4:00 - 4:05 Questions and Answers
- 4:05 - 4:15 **Jennifer Lin, MD**, Brigham and Women's Hospital, Dana-Farber Cancer Institute, Boston, Massachusetts
- 4:15 - 4:20 Questions and Answers
- 4:20 - 4:25 **Session Wrap-up: Grover Bagby Jr., MD**

5:30 - 7:30

Poster Reception

Grand Ballroom Salon E

Presenters in even-numbered poster sections will be at their posters 5:30-6:30.

Presenters in odd-numbered poster sections will be at their posters 6:30-7:30.

7:30 - 9:30

Symposium Banquet

Grand Ballroom Salons F-H

Saturday – September 20, 2014

7:00 - 8:00 { **Breakfast Buffet**
Grand Ballroom Salons F-H
Poster Viewing
Grand Ballroom Salon E

Session IV: FA Therapeutics: Past, Present, and Future

Chair: Jakub Tolar, MD, PhD
Scientific Advisory Board, Fanconi Anemia Research Fund
University of Minnesota, Minneapolis, Minnesota

8:00 - 8:05 **Session Overview: Jakub Tolar, MD, PhD**

8:05 - 8:15 **Lisandro Ribeiro**, Federal University of Parana, Curitiba, Brazil: *Treatment of Bone Marrow Failure in 49 Fanconi Anemia Patients with Oxymetholone*

8:15 - 8:20 Questions and Answers

8:20 - 8:30 **Qingshuo Zhang, PhD**, Oregon Health & Science University, Portland, Oregon: *Mechanistic Studies on Oxymetholone in a Murine Model of Fanconi Anemia*

8:30 - 8:35 Questions and Answers

8:35 - 8:45 **Carmem Bonfim, MD**, Federal University of Parana, Curitiba, Brazil: *Haploidentical Bone Marrow Transplantation and Post-transplantation Cyclophosphamide for Patients with Fanconi Anemia: The Experience of Curitiba*

8:45 - 8:50 Questions and Answers

8:50 - 9:00 **Parinda Mehta, MD**, Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio: *Chemotherapy-only Preparative Regimen for Alternative Donor Hematopoietic Stem Cell Transplantation for Patients with FA*

9:00 - 9:05 Questions and Answers

9:05 - 9:15 **Jordi Surrallés, PhD**, Universitat Autònoma de Barcelona, Barcelona, Spain: *Drug Screening Platforms for Fanconi Anemia Therapeutics*

9:15 - 9:20 Questions and Answers

9:20 - 9:25 **Session Wrap-up: Jakub Tolar, MD, PhD**

Session V: Aldehydes and Bone Marrow Failure

Chair: Toshiyasu Taniguchi, MD, PhD
Fred Hutchinson Cancer Research Center, Seattle, Washington

9:25 - 9:30 **Session Overview: Toshiyasu Taniguchi, MD, PhD**

- 9:30 - 9:40 **Miharu Yabe, MD, PhD**, Tokai University School of Medicine, Isehara, Japan: *Infant Japanese Fanconi Anemia Patients with the ALDH2-AA Genotype*
- 9:40 - 9:45 Questions and Answers
- 9:45 - 9:55 **Michael Garbati, PhD**, Oregon Health & Science University, Portland, Oregon: *ALDH1A1 Dysfunction in FANCC-deficient Macrophages Contributes to Aberrant Activation of the Innate Immune Response*
- 9:55 - 10:00 Questions and Answers
- 10:00 - 10:10 **Guillermo Burgos**, MRC Laboratory of Molecular Biology, Cambridge, United Kingdom: *Adb5 Deficiency in Fancd2-/-Mice Recapitulates FA and Identifies Formaldehyde as the Crucial Aldehyde Causing DNA Damage*
- 10:10 - 10:15 Questions and Answers
- 10:15 - 10:25 **Juan Garaycochea, PhD Student**, MRC Laboratory of Molecular Biology, Cambridge, United Kingdom: *P53 Mediates HSC Attrition in Aldh2-/-Fancd2-/-Mice*
- 10:25 - 10:30 Questions and Answers
- 10:30 - 10:35 **Session Wrap-up: Toshiyasu Taniguchi, MD, PhD**
- 10:35 - 10:55 **Break**

Session VI: FA-Mediated Signaling Pathways and Bone Marrow Failure

Chair: Richard Gelinas, PhD
Board of Directors and Scientific Advisory Board
Fanconi Anemia Research Fund
Institute for Systems Biology, Seattle, Washington

- 10:55 - 11:00 **Session Overview: Richard Gelinas, PhD**
- 11:00 - 11:10 **Timothy Chlon, PhD**, Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio: *The Fanconi Anemia Pathway is Required for Self-renewal of Human Pluripotent Stem Cells Independent of p53*
- 11:10 - 11:15 Questions and Answers
- 11:15 - 11:25 **Joel Greenberger, MD**, University of Pittsburgh Cancer Institute, Pittsburgh, Pennsylvania: *Reduced Irradiation or Chemotherapy Induced TGF- β in Fancd2-/- Mouse Marrow by JP4-039 and MMS350*
- 11:25 - 11:30 Questions and Answers
- 11:30 - 11:40 **Haojian Zhang, PhD**, Dana-Farber Cancer Institute, Boston, Massachusetts: *TGF- β Pathway Inhibition Rescues the Growth of Fanconi Anemia Hematopoietic Cells*
- 11:40 - 11:45 Questions and Answers

11:45 - 11:50 **Session Wrap-up: Richard Gelinas, PhD**

11:50 - 1:50 { **Lunch Buffet (served at 11:50)**
Grand Ballroom Salons F-H
Joint Board of Directors and Scientific Advisory Board Meeting
Brookside (Lower Level)
Poster Viewing
Grand Ballroom Salon E

Session VII: Expanding FA Clinical Phenotype

Chair: Akiko Shimamura, MD, PhD
Fred Hutchinson Cancer Research Center, Seattle, Washington

1:50 - 1:55 **Session Overview: Akiko Shimamura, MD, PhD**

1:55 - 2:05 **Jason Taylor, MD, PhD**, Oregon Health & Science University, Portland,
Oregon: *Fanc-/- Mice have Decreased Bone Mineral Density (BMD) that is the Result
of Decreased Trabecular Bone*

2:05 - 2:10 Questions and Answers

2:10 - 2:20 **Emmy Verheij, MD**, University Medical Center Utrecht, Utrecht,
Netherlands: *Prevalence of Hearing Loss and Speech in Noise Difficulties in Fanconi
Anemia*

2:20 - 2:25 Questions and Answers

2:25 - 2:35 **Alfredo Rodríguez Gómez, MSc**, Instituto Nacional de Pediatría, Mexico
City, Mexico: *Presence of Circulating CD34+ Cells with Multi-lineage Differentiation
Potential in the Peripheral Blood of FA Individuals*

2:35 - 2:40 Questions and Answers

2:40 - 2:45 **Session Wrap-up: Akiko Shimamura, MD, PhD**

Session VIII: Mediators of FA Pathway Function

Chair: Agata Smogorzewska, MD, PhD
The Rockefeller University, New York, New York

2:45 - 2:50 **Session Overview: Agata Smogorzewska, MD, PhD**

2:50 - 3:00 **Audrey Magron, MSc, PhD Student**, Laval University, Québec, Canada:
*The Regulation of STMN-1 Phosphorylation in the Context of Fanconi Anemia:
Consequence on Cellular Division*

3:00 - 3:05 Questions and Answers

- 3:05 - 3:15 **Kevin Hiom, PhD**, University of Dundee, Dundee, United Kingdom:
BRCA1 is Required for Maintenance of DNA-crosslink-induced G2/M Arrest in Cells Defective in the Fanconi Anemia Pathway
- 3:15 - 3:20 Questions and Answers
- 3:20 - 4:00 **Break**
- 4:00 - 4:10 **Judith Campbell, PhD**, California Institute of Technology, Pasadena, California: *Preventing Over-resection by DNA2 Helicase/Nuclease Suppresses Repair Defects in Fanconi Anemia Cells*
- 4:10 - 4:15 Questions and Answers
- 4:15 - 4:25 **Sharon Cantor, PhD**, University of Massachusetts Medical School, Worcester, Massachusetts: *A Genetic Reversion-independent Mechanism to Rescue BRCA2/FANCD1 Cells*
- 4:25 - 4:30 Questions and Answers
- 4:30 - 4:35 **Session Wrap-up: Agata Smogorzewska, MD, PhD**

<p>Keynote Presentation: DNA Replication and Its Interplay with Fanconi Anemia Pathways</p>

- 4:35 - 4:40 **Introduction: Agata Smogorzewska, MD, PhD**
The Rockefeller University, New York, New York
- 4:40 - 5:00 **Aninyda Dutta, MD, PhD**
University of Virginia, Department of Biochemistry & Genetics
Charlottesville, Virginia
- Presenter's statement: The role of DNA damage and replication stress has become an important topic for Fanconi anemia (FA) researchers due to (a) the function of the FA/BRCA pathway in repairing DNA damage (crosslink); (b) the oncogene induced replication stress; and (c) the high predisposition of FA patients to cancer. I will set the background for how replication initiates and progresses, and discuss our recent work on how certain proteins discovered because of their role in replication appear to function even more in cross-link repair pathways. I will also revisit the role of the E2 that is upstream from the FA-core complex.
- 5:00 - 5:10 Questions and Answers
- 5:10 - 5:15 **Wrap-up: Agata Smogorzewska, MD, PhD**
- Evening free; dinner on your own.**

Sunday – September 21, 2014

7:00 - 8:00 { **Breakfast Buffet**
Grand Ballroom Salons F-H
Poster Viewing
Grand Ballroom Salon E

Session IX: Mutation to Phenotype

Chair: Markus Grompe, MD
Oregon Health & Science University, Portland, Oregon

- 8:00 - 8:05 **Session Overview: Markus Grompe, MD**
- 8:05 - 8:15 **Isabell Rost, MSc, PhD Student**, University of Wuerzburg, Wuerzburg, Germany: *Classic Phenotype in a 47-year-old Fanconi Patient with UV Sensitivity: A Third Case with XPF/FANCD1 Mutations*
- 8:15 - 8:20 Questions and Answers
- 8:20 - 8:30 **Anderson Wang, DPhil**, The Rockefeller University, New York, New York: *RAD51 Mutation Results in Fanconi Anemia-like Phenotype by Failing to Protect Replication Fork at Interstrand Crosslinks*
- 8:30 - 8:35 Questions and Answers
- 8:35 - 8:45 **Josephine Dorsman, PhD**, Vrije Universiteit Medical Center, Amsterdam, Netherlands: *A Novel Fanconi Anemia Subtype Associated with a Dominant-Negative Mutation in RAD51*
- 8:45 - 8:50 Questions and Answers
- 8:50 - 9:00 **Roger Greenberg, MD, PhD**, University of Pennsylvania, Philadelphia, Pennsylvania: *Biallelic Mutations in BRCA1 Cause a Fanconi Anemia-like Disorder*
- 9:00 - 9:05 Questions and Answers
- 9:05 - 9:10 **Session Wrap-up: Markus Grompe, MD**

Special Session: Provocative Case Studies, Part 1: BRCA2

Chair: Eva Guinan, MD
Scientific Advisory Board, Fanconi Anemia Research Fund
Dana-Farber Cancer Institute, Boston, Massachusetts

- 9:10 - 9:15 **Session Overview: Eva Guinan, MD**

- 9:15 - 9:20 **Margaret MacMillan, MD**, University of Minnesota, Minneapolis, Minnesota: *Management of Biallelic BRCA2 Patients*
- 9:20 - 9:25 **Kara Maxwell, MD, PhD**, University of Pennsylvania, Philadelphia, Pennsylvania: *An Adult Cancer Patient with Biallelic BRCA2 Mutations: Expanding the Clinical Paradigm of Fanconi Anemia D1*
- 9:25 - 9:30 **Kimberly Rickman, MD/PhD Student**, The Rockefeller University, New York, New York: *Atypical Presentation of Biallelic FANCD1/BRCA2 Gene Mutations in Fanconi Anemia*
- 9:30 - 9:35 **Karel Svojgr, MD, PhD**, University Hospital Motol, Prague, Czech Republic: *Case Story of a Family Where Three Children with Fanconi Anemia (Complementation Group D1 with Bi-Allelic Mutations of BRCA2 Genes) Developed Cancer in Young Age and had Severe Toxicity During Cancer Treatment*
- 9:35 - 9:55 **Questions and Answers**
- 9:55 - 10:15 **Break**

Special Session: Provocative Case Studies, Part 2
--

- 10:15 - 10:20 **Neelam Giri, MD**, National Cancer Institute, Rockville, Maryland: *Occult FA: Patient with Five Pregnancies, Son with AML*
- 10:20 - 10:30 Questions and Answers
- 10:30 - 10:35 **Katherine Dunsky, MD**, Baylor College of Medicine, Houston, Texas: *Case Report of an Aggressive Head and Neck Squamous Cell Carcinoma (HNSCC) in a Patient with Fanconi Anemia*
- 10:35 - 10:45 Questions and Answers
- 10:45 - 10:50 **Marc Bierings, MD, PhD**, Utrecht University Children's Hospital, Utrecht, Netherlands: *Young Adults with FA: When to Transplant*
- 10:50 - 11:00 Questions and Answers
- 11:00 - 11:05 **Session Wrap-up: Eva Guinan, MD**
- 11:05 - 12:00 **Symposium Town Hall: An Interactive Discussion about FA Research**
Eva Guinan, MD
Chair, 26th Annual Fanconi Anemia Scientific Symposium
Scientific Advisory Board, Fanconi Anemia Research Fund
Dana-Farber Cancer Institute, Boston, Massachusetts