

13th NCI CCR Fellows and Young Investigators Colloquium

Program

Monday, March 25, 2013

8:00-8:30 a.m. **Registration and Poster Set-up** (All posters in Session I must be set-up during registration)

8:30-9:00 a.m. **Plenary Session I** (Main Auditorium)

Opening Remarks from the CCR Office of Training and Education

Jonathan Wiest, PhD, Associate Director, Office of Training and Education,
Center for Cancer Research, NCI

Opening Remarks and CCR-FYI Overview

Majda Hazndar, PhD and John Simmons, Co-chairs, CCR-FYI Steering Committee

9:00-9:30 a.m. **CCR Office of the Director Address** (Main Auditorium)

Robert Wiltrout, PhD, Director, Center for Cancer Research, NCI

9:30-10:30 a.m. **Keynote Speaker 1: 'pivotal role for the transcription factor, HOXB1, in breast cancer'**
(Main Auditorium)

Saraswati Sukumar, PhD, Co-Director The Sidney Kimmel Comprehensive
Cancer Center at Johns Hopkins University

Moderator: Barbara H. Rath, PhD

10:30-a.m.

11:45 p.m.

Concurrent Oral Presentations I

I. Immunology I (Room 1207)

10:30 **Stephanie Chen**, Human Retrovirus Section

*Heterodimeric IL-15 / IL-15 Receptor alpha Complexes Purified From Human Cells
Reduce Tumor Burden In Mice*

10:45 **Duane H. Hamilton**, Laboratory of Tumor Immunology and Biology

*High levels of expression of the transcription factor Brachyury induce resistance of
human carcinoma cells to immune-mediated attack*

11:00 **Jason A. Horton**, Radiation Oncology Branch

*Systemic Infusion of Bone Marrow Derived Mesenchymal Stem Cells Inhibits Cutaneous
Radiation-induced Fibrosis by Suppressing Chronic Inflammation*

11:15 **Sandra Li**, Laboratory of Molecular Immunoregulation

*The alarmin HMG1 is an effective DNA vaccine adjuvant and prevents mouse
melanoma tumor formation when delivered by gene gun or bioject technology*

11:30 **Fanching Lin**, Laboratory of Experimental Immunology

*IFN-gamma causes aplastic anemia by altering HSC composition and interrupting
lineage differentiation*

Moderators: Kimberly Boelte, PhD and Fanching Lin, PhD

II. Molecular and Cell Biology, Virology, and Bioinformatics I (Room 7203)

10:30 **Andrea Rivera**, Carcinogen DNA Interactions

AZT-induced aneuploidy is mediated by Aberrant Stathmin1 Expression

10:45 **Lei Sun**, Basic Research Program

Id2 Expression Determines Cell Fate in Multipotent Progenitor Cells

11:00 **Vijay Walia**, Laboratory of Cell and Developmental Signaling

LPA-P/3K-Akt Signaling Network Regulates Primary Cilium Assembly

- 11:15 **Steven Hatch**, Viral Recombination Section
HIV-1 RNA Trafficking in Polarized T cells
- 11:30 **Sagar B. Kudchodkar**, Virus-Cell Interaction Section
Mutations in a Pro-Rich Loop in the N-Terminal Domain of HIV-1 Capsid Impair Particle Assembly and Abolish Virus Infectivity
- Moderators: Joanna Sztuba-Solinska, PhD and Smita Kakar, PhD

III. Cancer Prevention, Carcinogenesis, and Cancer Stem Cells (1206)

- 10:30 **Weidong Li**, Laboratory of Cancer Prevention
Berberine suppress the colon cancer proliferation through activating AMPK
- 10:45 **Shakir Saud**, Nutritional Science Research Group
Chemopreventive activity of plant flavonoid Isorhamnetin in Colorectal Cancer
- 11:00 **Krist Aploks**, Laboratory of Human Carcinogenesis
The Effects of p53 and the Tumor Microenvironment on Asymmetric Chromosomal Division in Lung Cancer
- 11:15 **Hong Sug Kim**, Neuro-Oncology Branch
Gliomagenesis Arising from Pten- and Ink4a/Arf-Deficient Neural Progenitor Cells Is Mediated by the p53-Fbxw1/Cdc4 Pathway, Which Controls c-Myc
- 11:30 **Bruce Huang**, Laboratory of Tumor Immunology and Biology
The T-box transcription factor Brachyury blocks cell cycle progression and mediates tumor resistance to chemotherapy and radiation
- Moderators: Maria Cristina Rangel, PhD and Ishminder Mann, PhD

IV. Genetics, Genomics, and Proteomics (Room 1108)

- 10:30 **Michael D. Hall**, Cancer and Developmental Biology Laboratory
Conditional Deletion of Signal Transducer and Activator of Transcription-3 in the Mesoderm Results in Dysregulation of Skeletogenesis
- 10:45 **Bau-Lin Huang**, Cancer and Developmental Biology Laboratory
Interdigital mesoderm is the signaling center instructing digit joint formation
- 11:00 **Christiane Kuschal**, Dermatology Branch
Effect of aminoglycosides and non-aminoglycosides on readthrough of stop codons in xeroderma pigmentosum group C cells
- 11:15 **Eunwoo Shim**, Carcinogen-DNA Interactions Section
Overexpression of PGC-1 α in rat cardiomyocytes protects against nucleoside reverse transcriptase inhibitor (NRTI)-induced mitochondrial toxicity
- 11:30 **Hui Yang**, Gene Regulation and Chromosome Biology Laboratory
Selectively Amplify and Enrich DNA Palindromes from Genomic DNA
- Moderators: Barbara H. Rath, PhD and Majda Haznadar, PhD

V. Cancer Models, Metastasis, Microbiology, and Biophysics (Main Auditorium)

- 10:30 **Min-Hyung Lee**, Mouse Cancer Genetics Program
The potential male-specific oncogenic function of CDCA7L in astrocytoma
- 10:45 **Young H. Lee**, Urologic Oncology Branch
First Immortalized Human Tumor Cell Line Derived from Hereditary Papillary Renal Cell Carcinoma
- 11:00 **Amber Giles**, Pediatric Oncology Branch
Bone marrow-derived progenitor cells develop into myeloid-derived suppressor cells at metastatic sites

11:15 **Balamurugan Kuppasamy**, Laboratory of Cell and Developmental Signaling
The tumor suppressor C/EBPdelta promotes hypoxia-induced EMT and expression of stem cell markers through inhibition of FBXW7alpha: Implications for mammary tumor metastasis

11:30 **K. Leigh Greathouse**, Laboratory of Human Carcinogenesis
Analysis of the colon cancer microbiome using PhyloChip

Moderators: Bethanie Morrison, PhD and Jacqueline Salotti, PhD

11:45 a.m.-

12:00 p.m. **BREAK**

12:00-1:30 p.m. **Poster Session I (Atrium)**

12:00-12:45 p.m. *Odd-numbered Posters-presenter must be present*

12:45-1:30 p.m. *Even-numbered Posters-presenter must be present*

Immunology I

Molecular and Cell Biology, Virology, and Bioinformatics I

Chemistry, Pharmacology, and Structural Biology

Genetics, Genomics, and Proteomics

Cancer Models, Metastasis, Microbiology, and Biophysics

1:30-2:30 p.m. **Special Highlight Presentation: "Cancer Survivorship"** (Main Auditorium)

Noreen Fraser, Founder, Noreen Fraser Foundation

Moderator: Leigh Greathouse, PhD

2:30-2:45 p.m. **BREAK**

2:45-4:15 p.m. **Concurrent Workshops I**

1. Transition to Academia (Main Auditorium)

Michal Legiewicz, PhD, Research Scientist, Yale University

Pamela Ohashi, PhD, FRSC, Professor, Departments of Medical Biophysics and Immunology, University of Toronto

Ram Savan, PhD, Assistant Professor, Department of Immunology, University of Washington

M. Raza Zaidi, PhD, Assistant Professor, Fels Institute for Cancer Research and Molecular Biology, Temple University

Moderators: Fanching Lin, PhD and Jessie Kiu, PhD

2. Careers in Public Health (Conference Room 7206)

Tala Fakhouri, PhD, Epidemic Intelligence Service Officer, Centers for Disease Control and Prevention

Nina Hasen, PhD, Senior HIV Prevention Advisor, Office of the Global AIDS Coordinator

Gwen Murphy, PhD, Research Fellow, Division of Cancer Epidemiology and Genetics, NCI, NIH

JoAnn Zujewski, PhD, Head, Breast Cancer Therapeutics, Clinical Investigation Branch, NCI, NIH

Moderators: Anne Noonan, PhD and Adeola Makinde, PhD

3. Technology Transfer and Patents (Conference Room 7207)

Melissa Maderia, PhD, Technology Transfer Specialist, NCI Technology Transfer Center, NIH

Mita Mukherjee, PhD, JD, Corporate Counsel, MedImmune, LLC

Mark Rohrbaugh, PhD, JD, Director, Office of Technology Transfer, NIH

Arvinder Singh, PhD, Senior Scientist, Patent Agent, Kirax Corp., Bontia Springs, FL

Moderators: Willie Wilson, PhD and Barbara H. Rath, PhD

4. **Science Education** (Conference Room 1203)

Adam C. Berger, PhD, Senior Program Officer, Director of the Roundtable on Translating Genomic-Based Research for Health in the Board on Health Sciences Policy at the Institute of Medicine

Jeanne Garbarino, PhD, Director, Science Outreach, The Rockefeller University

Karobi Moitra, PhD, Clare Boothe Luce Assistant Professor of Molecular Biology, Trinity Washington University

Connie Noguchi, PhD, Dean, FAES Graduate School

Moderators: Julie Heinecke, PhD and Nadia Castro, PhD

4:15-4:30 p.m. **BREAK**

4:30-5:30 p.m. **Keynote Speaker II: "New Approaches to Drug Resistance in Cancer"** (Main Auditorium)

Michael Gottesman, PhD, Chief, Laboratory of Cell Biology, CCR, NCI

Moderator: Kimberly Boelte, PhD

5:30 p.m. **ADJOURN**

5:45 p.m. **Social Networking** (Brewer's Alley Restaurant and Brewery, 724 N. Market St., Frederick, MD)

Tuesday, March 26, 2013

8:00-8:30 a.m. **Registration and Poster Set-up** (All posters in Session II must be set-up during registration)

8:30-10:00 p.m. **Poster Session II** (Atrium)

8:30-9:15 a.m. *Odd-numbered Posters- presenter must be present*

9:15-10:00 a.m. *Even-numbered Posters- presenter must be present*

- Immunology II
- Molecular and Cell Biology, Virology, and Bioinformatics II
- Translational, Clinical, and Epidemiology Research
- Signal Transduction, Transcription, and Chromatin
- Cancer Prevention, Carcinogenesis, and Cancer Stem Cells
- Core Services

10:00-11:00 a.m. **Keynote Speaker III: "Regulation of CDB immunity"** (Main Auditorium)

Pamela Ohashi, PhD, FRSC, Department of Immunology, Campbell Family Institute, University of Toronto

Moderator: Vijay Walia, PhD

11:00-11:15 a.m. **BREAK**

11:15 a.m.

-12:30 p.m. **Concurrent Oral Presentations II**

I. Immunology II (Room 1201)

11:15 **Adrienne H. Long**, Pediatric Oncology Branch

Evaluating the susceptibility of solid tumors to chimeric antigen receptor modified T cell therapies

11:30 **Geraldine M. O'Connor**, Cancer and Inflammation Program

Molecular Dissection of the Functional Bifurcation of KIR3DL1 allotypes: Implications for HLA discrimination and HIV escape peptide recognition

11:45 **Eiise Sylar**, Pediatric Oncology Branch

Exploring the use of anti-CD79 CAR-expressing T stem cell memory cells as a treatment for relapsed, refractory pediatric ALL

12:00 **Zhewei Tang**, Antibody Therapy Section
A human single-domain antibody elicits potent anti-tumor activity by targeting an epitope in mesothelin close to the cancer cell surface

12:15 **Yichuan Wang**, Vaccine Branch
Vaginal type-II mucosa acts as an inductive site during the generation of primary COB+ T cell mucosal immune responses

Moderators: Franching Lin, PhD and Miranda Hanson, PhD

II. **Molecular and Cell Biology, Virology, and Bioinformatics II** (Main Auditorium)

11:15 **Mesfin Gonit**, Laboratory of Cancer Prevention
A Novel Role For 3'UTR Sequences in Regulating the Activity of the c-Myc Oncoprotein

11:30 **Christine Kettenhofen**, Laboratory of Cell and Developmental Signaling
EHD7 knock-down in zebrafish embryos disrupts cilia formation

11:45 **Julie L. Heinecke**, Radiation Biology Branch
Induction of iNOS in Breast Cancer and its Regulation of Poor Prognosis Indicators

12:00 **Jessica Smith**, Viral Mutation Section
Identification of Determinants for Interactions Between HIV-2 Vif and Human APOBEC3 Proteins

12:15 **Anne Noonan**, Translational Genomics Section
Birinapant, a Novel Smac Mimetic, Activates Apoptosis in NF- κ B Dependent Gynecologic Cancer (GC) Cell Lines

Moderators: Steven Hatch, PhD and Jessica Sine, PhD

III. **Translational, Clinical, and Epidemiology Research** (Room 7206)

11:15 **Dominic Moon**, Medical Oncology Branch
A Positive BRCA1/2 Mutation Status is an Independent Risk Factor for Carboplatin Hypersensitivity Reactions in Ovarian Cancer Patients

11:30 **Emily Place**, Cancer Prevention Fellowship Program
Newborn folate levels and child's early diet in risk for childhood acute lymphoblastic leukemia

11:45 **Benjamin Gamache**, Laboratory of Cancer Biology and Genetics
Molecular Synergy Identified for Combined mTOR/HDAC Inhibition by Transcriptional Co-Expression Analysis

12:00 **Paola Lopomo**, Pediatric Oncology Branch
Development of a chimeric antigen receptor (CAR) to target Ewing's sarcoma via CD276

12:15 **Jennifer C. Jones**, Vaccine Branch
nanoFACS: Sorting Exosomes and Microparticles

Moderators: Majda Haznadar, PhD and Nadia Castro, PhD

IV. **Signal Transduction, Transcription, and Chromatin** (Room 7108)

11:15 **Fabiola Cecchi**, Urologic Oncology Branch
Targeted Disruption of Heparan Sulfate Interaction with Hepatocyte and Vascular Endothelial Growth Factors Blocks Normal and Oncogenic Signaling

11:30 **Christopher Switzer**, Radiation Biology Branch
Tumor microenvironment nitric oxide activates multiple oncogenic signaling pathways in basal-like/triple negative breast cancer

11:45 **Ashley Denney**, Gene Regulation and Chromosome Biology Laboratory
*Novel RNA Polymerase II Mutants in *Saccharomyces cerevisiae* with Decreased Fidelity of Transcription and Altered Promoter Start Site Selection*

12:00 **Wei liu**, Metabolism and Cancer Susceptibility Section
Proline Biosynthesis Augments MYC-induced Aerobic Glycolysis and Cell Growth

12:15 **Prachi Mishra**, Laboratory of Human Carcinogenesis
2-Hydroxyglutarate: A Candidate Oncometabolite in Breast Cancer

Moderators: Bethanie Morrison, PhD and Jacqueline Salotti, PhD

V. Chemistry, Pharmacology, and Structural Biology (Room 1203)

11:15 **Emily L. Whitson**, Molecular Targets Laboratory
Evaluation of Marine Natural Products from a Sea Hare and Two Sponges that Selectively Inhibit the Growth of NF1 Null Cells

11:30 **Darshan Desai**, Experimental Retrovirology Section
Evaluation of HIV-1 protease inhibitors against a clinical isolate HIV-1 protease (PR-A02) using enzyme inhibition assays

11:45 **Carole Sourbier**, Urologic Oncology Branch
Englerin A stimulates PKC δ to Inhibit insulin signaling and to simultaneously activate HSF1: an example of pharmacologically induced synthetic lethality

12:00 **Joanna Sztuba-Solinska**, Reverse Transcriptase Biochemistry Section
Deciphering structural complexity of Dengue untranslated regions: the role of cis-acting RNA motifs and pseudoknot interaction in modulating functionality of the viral genome

12:15 **Dongwen Zhou**, Macromolecular Crystallography Laboratory
Structural basis of trypsin inhibition by a plant serine protease inhibitor involved in the inhibition of tumor cell adhesion and invasion: complex structure of EcTl and bovine trypsin

Moderators: Maria Cristina Rangel, PhD and Smita Kakar, PhD

12:30-1:15 p.m. **BREAK**

11:00 a.m.

-4:30 p.m. **Career Fair**

1:15-2:15 p.m. **Keynote Speaker IV: "Raf Kinase Signaling in Normal and Disease States: The Details DO Matter!"** (Main Auditorium)

Deborah K. Morrison, PhD, Chief, Laboratory of Cell and Developmental Signaling, CCR, NCI

Moderator: Ishminder Mann, PhD

2:150-2:30 p.m. **BREAK**

2:30-4:00 p.m. **Concurrent Workshops II**

1. Science Culture in Industry (Main Auditorium)

Johanna Abend, PhD, Investigator, Drug Discovery, Novartis Institutes of BioMedical Research

Emily Leproust, PhD, Director, Applications and Chemistry R&D- Genomics, Agilent Technologies, Inc.

Zora Modrusan, PhD, Senior Scientist, Genentech

Bhanu Singh, PhD, Scientific Director, Janssen Research & Development

Moderators: Ishminder Mann, PhD and Julie Heinecke, PhD

2. Federal Careers (Conference Room 1206)

Wen Chen, PhD, Program Director, Sensory/Motor Disorders of Aging Section, NIA, NIH

Kristin Fabre, PhD, Scientific Program Manager, NCATS

Huung Huynh, PhD, Pharmacologist, Reviewer, FDA

Ashutosh Rao, PhD, Researcher, Reviewer, FDA
Moderators: Jianfei (Jeffery) Zhao, PhD and Yang Zhou, PhD

3. International Opportunities (Conference Room 1201)

Kevin Bialy, MAA, Program Officer, Fogarty International Center, NIH
Shawn Mullen, PhD, Deputy Director, NIH/OITE Office of Postdoctoral Services
Candelario Zapata, MA, Director, Division of International Services
Moderators: Ravikiran Yedidi, PhD and Cristina Maria Rangel, PhD

4. Careers in Science Writing (Conference Room 1203)

Christine Borowski, PhD, Senior Editor, *Nature Biotechnology*
Rebecca Cerio, PhD, Health Science Policy Analyst, Office of Scientific Program and Policy Analysis, NIDDK
Chhavi Chauhan, PhD, Scientific Editor, *American Society for Investigative Pathology*
Kendall Powell, MS, Freelance Science Writer & Editor, Kendall Powell SciWriting, LLC
Moderators: Smita Kakar, PhD and Ravindra Veeranna, PhD

4:00-4:15 p.m. **BREAK**

4:15-5:15 p.m. **Postdoctoral Keynote Speaker: "An Integrative and Translational Approach to Lung Cancer Research"** (Main Auditorium)

Brid Ryan, PhD, MPH, Research Fellow, Laboratory of Human Carcinogenesis, NCI

5:15-5:30 p.m. **Closing Address/TRAVEL AWARDS** (Main Auditorium)

The attendance of winners is required to receive award

5:30p.m. **ADJOURN**

6:00p.m. **Social Networking** (Brewer's Alley Restaurant and Brewery, 124 N. Market St., Frederick, MD)