Conference Program

Friday, December 4

5:30 p.m.–7:30 p.m. **Plenary Session 1: Noncoding RNA Functions**
Pacific Grand Ballroom, Salons A-D
Session Chairperson: Joshua Mendell, UT Southwestern Medical Center, Dallas, TX

Divergent transcription and long noncoding RNA in cancer
Phillip A. Sharp, The David H. Koch Institute for Integrative Cancer Research at MIT, Cambridge, MA

Genome regulation by long noncoding RNAs
Howard Y. Chang, Stanford University, Stanford, CA

microRNAs and their regulatory effects
David P. Bartel, MIT Whitehead Institute for Biomedical Research, Cambridge, MA

Xist RNA in health and disease
Jeannie T. Lee, HHMI/Massachusetts General Hospital, Boston, MA

7:30 p.m.–9:00 p.m. **Opening Reception**
Pacific Grand Ballroom, Salons E-H

Saturday, December 5

7:00 a.m.–8:00 a.m. **Breakfast and Mentoring Roundtables**
Pacific Grand Ballroom, Salon E

8:00 a.m.–10:00 a.m. **Plenary Session 2: Mechanisms of Noncoding RNAs in Tumorigenesis I**
Pacific Grand Ballroom, Salons A-D
Session Chairperson: David P. Bartel, MIT Whitehead Institute for Biomedical Research, Cambridge, MA

Noncoding RNAs in cancer and development
Andrea Ventura, Memorial Sloan Kettering Cancer Center, New York, NY

Disregulation of lncRNAs helps drive Ewing sarcoma pathogenesis
Alejandro Sweet-Cordero, Stanford University, Stanford, CA

miR-34 miRNAs mediate the tumor suppressor functions of p53
Lin He, University of California, Berkeley, CA

Strand-specific in vivo screen of cancer-associated miRNAs unveils key drivers and oncogenic targets*
Yejing Ge, The Rockefeller University, New York, NY

The diverse roles of long noncoding RNAs in the p53 tumor suppressor pathway*
Nadva Dimitrova, Yale University, New Haven, NY

*Short talks from proffered papers

10:00 a.m.-10:30 a.m. **Break**
Pacific Grand Ballroom, Salon Foyer

10:30 a.m.-12:30 p.m. **Plenary Session 3: Regulation of Noncoding RNAs in Cancer**
Pacific Grand Ballroom, Salons A-D
Session Chairperson: Howard Y. Chang, Stanford University, Stanford, CA

Functional long noncoding RNAs in lung cancer
Sven Diederichs, German Cancer Research Center, Heidelberg, Germany

microRNA biogenesis pathways in cancer
Richard I. Gregory, Boston Children's Hospital, Boston, MA

microRNAs and lncRNAs in mammalian physiology and cancer
Joshua Mendell, UT Southwestern Medical Center, Dallas, TX

A lncRNA regulates DNA repair by homologous recombination*
Vivek Sharma, National Cancer Institute, Bethesda, MD

The role of long noncoding RNA HIF1A-AS2 in hypoxic environment of glioblastoma*
Agnieszka Bronisz, Brigham and Women's Hospital/Harvard Medical School, Boston, MA

12:30 p.m.-2:30 p.m. **Lunch on Own**

2:30 p.m.-4:30 p.m. **Plenary Session 4: Genomics of Noncoding RNAs in Cancer**
Pacific Grand Ballroom, Salons A-D
Session Chairperson: Anastasia Khvorova, University of Massachusetts Medical School, Worcester, MA

Dependency of prostate cancer on HNRNPL and its associated RNAs
X. Shirley Liu, Dana-Farber Cancer Institute, Boston, MA

Mechanisms of tumorigenesis due to somatic mutations in DICER1 and DROSHA in childhood kidney cancers
James F. Amatruda, UT Southwestern Medical Center, Dallas, TX

It takes two to tango: The PVT1-MYC alliance in human cancer
Anindya Bagchi, University of Minnesota Masonic Cancer Center, Minneapolis, MN

Dicer1 deletion: Sufficient for angiosarcoma development and a haploinsufficient tumor suppressor in rhabdomyosarcoma*
Mark Hatley, St. Jude Children's Research Hospital, Memphis, TN

The enhancer landscape involves a core noncoding RNA protein interaction network for c-MYC expression*
Martin Walsh, Icahn School of Medicine at Mount Sinai, New York, NY

4:30 p.m.-5:00 p.m. **Break**
Pacific Grand Ballroom, Salon Foyer

*Short talks from proffered papers

5:00 p.m.–6:00 p.m. **Keynote Session**
Pacific Grand Ballroom, Salons A-D
Session Chairperson: Phillip A. Sharp, The David H. Koch Institute for Integrative Cancer Research at MIT, Cambridge, MA

Noncoding RNAs of viral and cellular origin: Links to oncogenesis
Joan Steitz, Yale University School of Medicine, New Haven, CT

6:00 p.m.–8:00 p.m. **Poster Session A and Reception**
Pacific Grand Ballroom, Salons E-H

Sunday, December 6

7:00 a.m.–8:00 a.m. **Breakfast and Mentoring Roundtables**
Pacific Grand Ballroom, Salon E

8:00 a.m.–10:00 a.m. **Plenary Session 5: Mechanisms of Noncoding RNAs in Tumorigenesis II**
Pacific Grand Ballroom, Salons A-D
Session Chairperson: Andrea Ventura, Memorial Sloan Kettering Cancer Center, New York, NY

Regulatory RNAs
Nikolaus Rajewsky, Max Delbrück Center for Molecular Medicine, Berlin, Germany

Identification of tRNA-derived fragments that suppress cancer progression through displacement of transcripts from the YBX1 RNA-binding protein
Sohail Tavazoie, The Rockefeller University, New York, NY

In vivo analysis of linear and circular noncoding RNAs in tumorigenesis
Pier Paolo Pandolfi, Beth Israel Deaconess Medical Center, Boston, MA

Precise let-7 expression levels balance organ regeneration against tumor suppression*
Liem Nyugen, UT Southwestern Medical Center, Dallas, TX

LncRNA and microRNA synergize to regulate colon cancer initiating cell asymmetric division*
Xiling Shen, Duke University, Durham, NC

10:00 a.m.–10:30 a.m. **Break**
Pacific Grand Ballroom, Salon Foyer

*Short talks from proffered papers

10:30 a.m.-12:00 p.m. **Plenary Session 6: Biomarkers and Extracellular RNAs**
Pacific Grand Ballroom, Salons A-D
Session Chairperson: Sven Diederichs, German Cancer Research Center, Heidelberg, Germany

The emergence of long noncoding RNAs in cancer
Arul M. Chinnaiyan, University of Michigan, Ann Arbor, MI

Illuminating the dark matter of the genome
Michael T. McManus, University of California, San Francisco, CA

Sequence-based design of small molecules targeting precursor microRNAs
Matthew D. Disney, The Scripps Research Institute Florida, Jupiter, FL

12:00 p.m.-3:00 p.m. **Poster Session B and Lunch**
Pacific Grand Ballroom, Salons E-H

3:00 p.m.-4:30 p.m. **Plenary Session 6 (continued): Biomarkers and Extracellular RNAs**
Pacific Grand Ballroom, Salons A-D
Session Chairperson: X. Shirley Liu, Dana-Farber Cancer Institute, Boston, MA

Isolation of extracellular nucleic acid and their diagnostic and biomarker potential
Thomas Tuschl, The Rockefeller University, New York, NY

Cancer cell extracellular vesicles trigger apoptosis specifically in a primary cells
Thomas R. Gingeras, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY

microRNA-24 transferred from platelet-derived microparticles to tumor cells in solid tumors targets mt-Nd2 mRNA and modulates mitochondrial function and tumor growth*
James Michael, Temple University School of Medicine, Philadelphia, PA

HiClinc-1, a highly conserved Cancer-Testis lncRNA, regulates cell proliferation and tumor onset*
Yasuyuki Hosono, University of Michigan Medical School, Ann Arbor, MI

4:30 p.m. - 5:30 p.m. **Panel Discussion on Competitive Endogenous RNAs**
Pacific Grand Ballroom, Salons A-D
Moderator: Howard Y. Chang, Stanford University, Stanford, CA

Panelists:
Pier Paolo Pandolfi, Beth Israel Deaconess Medical Center, Boston, MA
David Bartel, Massachusetts Institute of Technology, Cambridge, MA
Phillip A. Sharp, The David H. Koch Institute for Integrative Cancer Research at MIT, Cambridge, MA

5:00 p.m.-5:30 p.m. **Discussion**
Pacific Grand Ballroom, Salons A-D

5:30 p.m.- **Evening Off / Dinner on Own**

*Short talks from proffered papers

7:00 a.m.–8:00 a.m. **Breakfast and Mentoring Roundtables**
Pacific Grand Ballroom, Salon E

8:00 a.m.–10:00 a.m. **Plenary Session 7: Science of RNA Therapeutics and Delivery**
Pacific Grand Ballroom, Salons A–D
Session Chairperson: Jeannie T. Lee, HHMI/Massachusetts General Hospital, Boston, MA

Targeting nuclear noncoding RNAs
David R. Corey, UT Southwestern Medical Center, Dallas, TX

microRNA-based therapeutics in cancer
Frank J. Slack, BIDMC Cancer Center/Harvard Medical School, Boston, MA

Regulatory control of lincRNA function through formation of complex RNA structural motifs
Anna Pyle, Yale University, New Haven, CT

Differentiation of mammary tumors and reduction in metastasis upon Malat1 lncRNA loss*
Gayatri Arun, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY

Robust modulation of gene expression in aggressive glioblastoma mouse models: A new approach for in vivo target validation*
Andrew Coles, University of Massachusetts Medical School, Worcester, MA

10:00 a.m.–10:30 a.m. **Break**
Pacific Grand Ballroom, Salon Foyer

10:30 a.m.–12:30 p.m. **Plenary Session 8: Clinical Translation of Noncoding RNA Therapies**
Pacific Grand Ballroom, Salons A–D
Session Chairperson: Frank J. Slack, BIDMC Cancer Center/Harvard Medical School, Boston, MA

Selective activation of gene expression by targeting long noncoding RNA
James Barsoum, RaNA Therapeutics, Cambridge, MA

Advances in oligonucleotide chemistry for the treatment of neurodegenerative disorders and brain tumors
Anastasia Khvorova, University of Massachusetts Medical School, Worcester, MA

Towards a therapy for Angelman syndrome by targeting a long noncoding RNA to active UBE3A
Frank Rigo, Isis Pharmaceuticals, Carlsbad, CA

Development of a microRNA mimic delivered by targeted nanocells as a treatment for patients with recurrent thoracic cancer*
Glen Reid, Asbestos Diseases Research Institute, Sydney, Australia

Potent knock down of lncRNAs in vitro and in vivo with antisense LNA GapmeRs*
Frandsen Niels, Exiqon, Vedbaek, Denmark

12:30 p.m.–12:45 p.m. **Closing Remarks**
Pacific Grand Ballroom, Salons A–D

*Short talks from proffered papers