

# Splicing Factor Mutations and RNA Biology in Cancer Workshop



***HOSTED BY YALE CANCER CENTER AND YALE CENTER  
FOR RNA SCIENCE AND MEDICINE***

**May 22-23, 2019**

**Edward P Evans Hall**

**165 Whitney Ave, New Haven, CT 06511**

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**MAY 22, 2019 5:00pm-9:00pm**  
**Beinecke Terrace Room**

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**5:00pm Registration and Poster Set-Up**

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**5:30pm Welcome Reception and Poster Presentation**

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**6:30pm Keynote**

***Joan Steitz, PhD***

Sterling Professor of Molecular Biophysics and Biochemistry;  
Investigator, Howard Hughes Medical Institute; Yale University  
School of Medicine

**“The Enigma of Viral Noncoding RNAs”**

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**7:30pm Dinner**

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**8:15pm Dessert Reception and Poster Presentation**

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## Poster Presentations:

**Sophia Adamia**, “Mutations in splicing regulatory elements in RHAMM gene may contribute to an increased RHAMM-exon4/RHAMM-FL splice variant ratio in multiple myeloma (MM)”.

**Yusuf Adeshina**, “Rational Design of Small Molecule Inhibitor of Serine Arginine Rich Splicing Factor 2 (SRSF2)”.

**Olga Anczukow**, “Misregulation of splicing factors in breast cancer initiation and metastasis”.

**Nan Bai**, “Designing Inhibitors of the Msi1 Protein-RNA Interaction by RNA Mimicry”.

**Erson-Bensan**, “Unraveling the complexity of breast cancer transcriptome through 3’UTRs”.

**Noah Daniels**, “Investigating the Role of DDX41 in pre-messenger RNA Splicing and Leukemogenesis”.

**Callen Feeney**, “A synthetic molecule enhances U2AF2 complexes with splice site RNAs and stalls pre-mRNA splicing”.

**Courtney Hershberger**, “LUC7L2 is a splicing regulatory protein that is frequently mutated in bone marrow neoplasms”.

**Nathan Leclair**, “Dissecting Splicing Factor Poison-Exon Regulation in Breast Cancer”.

**Wan Yee Leong**, “U2AF1 Splicing Factor Mutations Confer Sensitivity to ATR Inhibition”.

**Bo Liu**, “Hotspot mutations in SF3B1 promote aberrant splicing and breast tumorigenesis”.

**Debanjana Maji**, “Cancer-associated mutations of the pre-mRNA splicing factor U2AF2 alter splice site signal recognition”.

**Nicole Martinez**, “Pseudouridine synthases modify human pre-mRNA co-transcriptionally and affect splicing”.

**Cameron Soulette**, “Nanopore sequencing reveals isoform-specific alterations in human bronchial epithelial cells with U2AF1S34F mutations”.

**Alison Tang**, “FLAIR; Full-Length Alternative Isoform analysis of RNA”.

**Laura Urbanski**, “MYC-Induced Alternative Splicing in breast cancer”.

**Borwyn Wang**, “The Role of Alternatively-Spliced CSF3R in Promoting Myelodysplastic Syndromes”.

**Chandani Warnasooriya**, “U2AF1 and its myelodysplasia-associated S34F mutation alter U2AF2 conformations for splice site RNA recognition”.

**Emily Wheeler**, “Allele-specific enhanced CLIP and RNA-Seq reveal alterations in RNA processing events in hematopoietic progenitor cells derived from isogenic iPSC models of SRSF2 and U2AF1 mutations”.

**Akhide Yoshimi**, “Reciprocal Alterations in RNA Splicing and Epigenetic Regulation Drive Leukemogenesis”.

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**MAY 23, 2019 8:00am-5:00pm**  
**Class of 1980 Classroom / Room 2400**

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**8:00am-4:00pm**      **Registration**

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**8:00am**      **Breakfast**

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**8:25am**      **Opening Remarks**

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**8:30am-10:00am**

**Session 1**

Talk 1/2:

***Robert Bradley, PhD***

Associate Member, Public Health Sciences Division; Associate Member, Basic Sciences Division, Fred Hutchinson Cancer Research Center

***Omar Abdel-Wahab, MD***

Associate Attending, Leukemia Service, Department of Medicine, Associate Member, Human Oncology and Pathogenesis, Memorial Sloan Kettering Cancer Center

**"Spliceosomal Disruption of the non-canonical BAF complex in cancer"**

Talk 3:

***Dong-Er Zhang, MD, PhD***

Professor, Pathology, UC San Diego

**"RUNX1 related post-transcriptional regulation of gene expression"**

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Talk 4:

***Nicole Martinez, PhD***

Postdoctoral Fellow, Yale University School of Medicine

**“Pseudouridine synthases modify human pre-mRNA co-transcriptionally and affect splicing”**

Talk 5:

***Dan Larson, PhD***

Earl Stadtman Investigator; Head, Systems Biology of Gene Expression Section, Laboratory of Receptor Biology and Gene Expression, National Cancer Institute

**“U2AF1 contributes to cancer progression through a non-canonical role in translation”**

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**10:00am-  
10:30am**

**Break**

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**10:30am-  
12:05pm**

**Session 2**

Talk 1:

***Christine Mayr, MD, PhD***

Associate Member, Cancer Biology and Genetics Program,  
Memorial Sloan Kettering Cancer Center

**“Regulation of 3’UTR-mediated protein-protein interactions”**

Talk 2:

***William Fairbrother, PhD***

Professor of Biology, Molecular Biology, Cell Biology, &  
Biochemistry, Brown University

**"Pathogenic mutations and the evolution of the splicing code "**

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Talk 3:

***Michael Kharas, PhD***

Associate Member, Molecular Pharmacology Program, Memorial Sloan Kettering Cancer Center

**“RNA Regulators in Normal and Malignant Stem Cells”**

Talk 4:

***Matthew Disney, PhD***

Professor, Department of Chemistry, Scripps Research

**“Translating RNA Sequence into Lead Small Molecule Medicines”**

Talk 5:

***Erin Ahn, PhD***

Associate Professor, University of South Alabama

**“Oncogenic RNA Splicing in Glioblastoma”**

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**12:05pm-  
1:30pm**

**Lunch (+Pharma/Sponsor Exposition)**

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**1:30pm-  
3:00pm**

**Session 3**

Talk 1:

***Matt Simon, PhD***

Associate Professor of Molecular Biophysics and Biochemistry

**“Chemical tools to study the non-coding transcriptome”**

Talk 2:

***Angela Brooks, PhD***

Assistant Professor of Biomolecular Engineering, UC Santa Cruz

**“Full-length alternative isoforms associated with splicing factor mutations identified from long-read nanopore sequencing”**

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Talk 3:

***Ernesto Guccione, PhD***

Associate Professor, Icahn School of Medicine at Mount Sinai  
**“Therapeutic targeting of RNA splicing catalysis through inhibition of protein arginine methylation”**

Talk 4:

***Luisa Escobar-Hoyos, PhD***

Research Scholar, Human Oncology and Pathogenesis, Memorial Sloan Kettering Cancer Center  
**“Altered mRNA splicing by mutant p53 activates oncogenic KRAS signaling in pancreatic cancer”**

Talk 5:

***Courtney Hershberger, BS***

Graduate Student, Cleveland Clinic  
**“LUC7L2 is a splicing regulatory protein that is frequently mutated in bone marrow neoplasms”.**

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**3:00pm-  
3:20pm**

**Break**

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**3:20pm-  
4:00pm**

**Session 3 (cont.)**

Talk 6:

***Clara Kielkopf, PhD***

Professor, Department of Biochemistry and Biophysics, University of Rochester Medical Center  
**“A synthetic molecule stalls pre-mRNA splicing by enhancing cancer-relevant U2AF2 – RNA complexes”**

Talk 7:

***Carl Walkley, PhD***

Head, Cancer & RNA Laboratory, St Vincent’s Institute/The University of Melbourne  
**“Understanding how RNA splicing mutations contribute to myelodysplastic syndrome: *Srsf2*<sup>P95H/+</sup>”**

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**4:00pm-  
5:00pm**

**Keynote**

***Samie Jaffrey, PhD***

Professor of Pharmacology, Weill Cornell Medical College

**“Control of mRNA, snRNA and lncRNA function by regulated nucleotide methylations”**

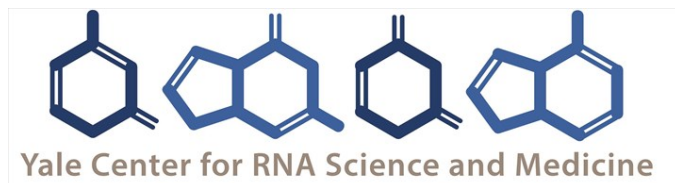
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**5:00pm**

**Closing Remarks**

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