



FASEB

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Science Research Conferences

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Mobile DNA in Mammalian Genomes

June 18 - June 23, 2017

Big Sky, Montana

Organizers:

Kathleen Burns

Johns Hopkins University School of Medicine
Baltimore, Maryland, USA

Geoff Faulkner

University of Queensland
Brisbane, Queensland, Australia

Cedric Feschotte

University of Utah School of Medicine
Salt Lake City, Utah, USA

José L. García- Pérez

University of Granada
Granada, Spain

David Ray

Texas Tech University
Lubbock, Texas, USA

Sunday, June 18, 2017

Time	Title/Topic Event	
4:00 pm – 9:00 pm	Conference Registration	
6:00 pm – 6:45 pm	Welcome Reception	
6:45 pm – 8:00 pm	DINNER	
8:00 pm – 8:15 pm	Introduction	Kathleen Burns, Johns Hopkins University
8:15 pm – 9:30 pm	Keynote Speaker	
	Studies of a Human Retrotransposon	John Moran, University of Michigan

Monday, June 19, 2017

Time	Title/Topic Event		
7:30 am – 9:00 am	BREAKFAST		
7:30 am – 12:00 pm	Conference Registration		
9:00 am – 12:00 pm	Scientific Session 1: Mechanisms of retrotransposition		
	9:00 am – 9:30 am	Systems analyses of L1 elements and their friends suggest "S phase is critical"	Chair: Jef Boeke , New York University
	9:30 am – 10:00 am	Molecular characterization of the ORF1 protein from the human LINE-1 retrotransposon	Oliver Weichenrieder , Tuebingen
	10:00 am – 10:30 am	Interactomic analyses of ectopic and endogenous human LINE-1 retrotransposons	John LaCava , Rockefeller University
	10:30 am – 10:45 am	<i>FASEB Sponsored Coffee Break</i>	
	10:45 am – 11:15 am	LINE-1 retrotransposition in humans	José García Pérez , University of Granada
	11:15 am – 11:30 am	RNA ligation precedes U6/LINE-1 retrotransposition	John Moldovan , University of Michigan
	11:30 am – 11:45 am	A Single-Strand Nuclease Activity of the LINE-1 ORF2-Encoded Protein	Mitsuhiro Nakamura , University of Michigan
	11:45 am – 12:00 pm	Molecular requirements for the retrotransposition of Pol III-derived retrotransposons: <i>Alu</i> , B2 and BC1	Maria Dolores Fernandez Fernandez , Tuebingen
12:00 pm – 1:00 pm	LUNCH		
1:00 pm – 2:30 pm	Career Development Workshop		
2:30 pm – 3:30 pm	Free time		
3:30 pm – 5:45 pm	The Jerzy Jurka Memorial Symposium: Comparative and Evolutionary Genomics		
	3:30 pm – 4:00 pm	Mobile Elements and Genomic Variation	Chair: Mark Batzer , Louisiana State University
	4:00 pm – 4:30 pm	Transposable Element Evolution in Chiropterans	David Ray , Texas Tech University
	4:30 pm – 5:00 pm	Transposable elements as catalysts of convergent molecular innovation	Cedric Feschotte , University of Utah
	5:00 pm – 5:30 pm	A single-molecule look at highly repetitive regions hidden within assembly gaps	Alexander Suh , Uppsala University
	5:30 pm – 5:45 pm	Transposable elements spread potential <i>cis</i> -regulatory sources for mammary gland evolution	Hidenori Nishihara , Tokyo Institute of Technology
5:45 pm – 6:00 pm	Lightning Talks Introducing Poster Session I		
6:00 pm – 7:00 pm	Conference Registration		
6:00 pm – 7:00 pm	DINNER		
7:00 pm – 9:00 pm	Poster Session I		

Tuesday, June 20, 2017

Time	Title/Topic Event	
7:30 am – 9:00 am	BREAKFAST	
7:30 am – 12:00 pm	Conference Registration	
9:00 am – 12:00 pm	Scientific Session 2: Transposable elements in cancer	
	9:00 am – 9:30 am	L1 Retrotransposition in Somatic Cells Chair: Haig Kazazian , Johns Hopkins University
	9:30 am – 10:00 am	Transposon-mediated mutagenesis and mouse modeling reveal a tumor suppressor role for SRC-2 in liver cancer Kathryn O'Donnell , University of Texas, Southwestern
	10:00 am – 10:30 am	<i>FASEB Sponsored Coffee Break</i> Group Photo
	10:30 am – 11:00 am	Impact of L1 elements on mammalian genomes Victoria Perepelitsa Belancio , Tulane University
	11:00 am – 11:30 am	Pan-Cancer Retrotransposition Jose Tubio , University of Vigo
	11:30 am – 11:45 pm	miR-128 represses L1 retrotransposition by a dual mechanism Irene Munk Pedersen , University of California, Irvine
	11:45 pm – 12:00 pm	Proteogenomic Characterization of LINE-1 in Cancer David Fenyő , New York University
12:00 pm – 1:00 pm	LUNCH	
1:00 pm – 4:00 pm	Free time	
4:00 pm – 6:00 pm	Scientific Session 3: Endogenous retroviruses	
	4:00 pm – 4:15 pm	Overview of mammalian endogenous retroviruses Chair: Dixie Mager , Terry Fox Laboratory
	4:15 pm – 4:45 pm	miR-34 miRNAs mediate MERVL silencing in pluripotent stem cells Lin He , University of California, Berkeley
	4:45 pm – 5:15 pm	Mobile elements, polydactyl proteins and the species-specificity of human biology Didier Trono , École Polytechnique Fédérale de Lausanne
	5:15 pm – 5:30 pm	Epigenetic control of endogenous retroviruses in cancer Kate Chiappinelli , George Washington University
	5:30 pm – 5:45 pm	Critical Role of Human Endogenous Retroviruses (HERVs) in Neurodevelopment and Neurodevelopmental Tumors Tara Doucet-O'Hare , National Institutes of Health
	5:45 pm – 6:00 pm	KRAB-zinc finger proteins evolve to control mobile DNA elements and facilitate their adaptation as novel regulators of gene expression Gernot Wolf , National Institutes of Health
6:00 pm – 6:15 pm	Lightning Talks Introducing Poster Session II	
6:00 pm – 7:00 pm	Conference Registration	
6:15 pm – 7:15 pm	DINNER	
7:15 pm – 9:00 pm	Poster Session II	

Wednesday, June 21, 2017

Time	Title/Topic Event		
7:30 am – 9:00 am	BREAKFAST		
7:30 am – 12:00 pm	Conference Registration		
9:00 am – 12:15 pm	Scientific Session 4: Germline and Early Development		
	9:00 am – 9:30 am	The Human-specific Nature of Early Embryogenesis	Chair: Zsuzsanna Izsvak , Max-Delbrück-Center for Molecular Medicine
	9:30 am – 10:00 am	Genome-wide LINE-1 (L1) integrome analysis: Investigating distribution and consequences of L1 insertions in human pluripotent stem cells	Gerald Schumann , Paul-Ehrlich-Institut
	10:00 am – 10:30 am	Using LINE to understand the germline	Alex Bortvin , Carnegie Institute
	10:30 am – 10:45 am	<i>FASEB Sponsored Coffee Break</i>	
	10:45 am – 11:15 am	Heterochromatin formation and retrotransposon function during early mammalian development	Maria Elena Torres-Padilla , Institute of Epigenetics and Stem Cells, München
	11:15 am – 11:30 am	Selective LINE retrotransposition in “germ”-like cells of <i>Candida albicans</i>	Jeff Han , Tulane University
	11:30 am – 11:45 am	The intact piRNA pathway prevents L1 mobilization in male meiosis	Simon Newkirk , South Dakota State University
	11:45 am – 12:00 pm	Heritable L1 retrotransposition in the mouse primordial germline and early embryo	Sandra Richardson , University of Queensland
	12:00 pm – 12:15 pm	A family of double-homeodomain transcription factors regulates zygotic genome activation in placental mammals	Alberto De Iaco , École Polytechnique Fédérale de Lausanne
12:15 pm – 1:30 pm	LUNCH and Meet the Experts Session		
1:30 pm – 3:30 pm	Free time		
3:30 pm – 4:00 pm	Business Meeting		
4:00 pm – 5:45 pm	Scientific Session 5: Transposable element transcription		
	4:00 pm – 4:30 pm	TBA	Chair: Prescott Deininger , Tulane University
	4:30 pm – 5:00 pm	Retrotransposition and cancer: developing new genomic approaches to study LINE-1 activation in human cells	Gael Cristofari , Institute for Research on Cancer and Aging
	5:00 pm – 5:30 pm	Improved Software for TE Genomics Identifies New TE Regulatory Factors	Molly Hammel , Cold Spring Harbor Labs
	5:30 pm – 5:45 pm	Landscape of Transposable Element Expression in Human Cells	Wan Rou Yang , Johns Hopkins University
5:45 pm – 6:00pm	Lightning Talks Introducing Poster Session III		
6:00 pm – 7:00 pm	Conference Registration		
6:00 pm – 7:00 pm	DINNER		
7:00 pm – 9:00 pm	Poster Session III		

Thursday, June 22, 2017

Time	Title/Topic Event		
7:30 am – 9:00 am	BREAKFAST		
7:30 am – 12:00 pm	Conference Registration		
9:00 am – 12:00 pm	Scientific Session 6: Epigenetics and gene regulation		
	9:00 am – 9:30 am	Transposable elements and epigenome evolution Chair: Ting Wang , Washington University	
	9:30 am – 10:00 am	Understanding the Impact of Transposable Elements using Comparative Epigenomics Guillaume Bourque , McGill University	
	10:00 am – 10:30 am	KRAB-ZFPs: Genome defenders and drivers of mammalian evolution Todd MacFarlan , National Institutes of Health	
	10:30 am – 10:45 am	<i>FASEB Sponsored Coffee Break</i>	
	10:45 am – 11:15 am	4Tran: a method to analyze chromatin interactions of transposable elements Jane Skok , New York University	
	11:15 am – 11:30 am	Regulation of LINE1 elements by 2-oxoglutarate-dependent dioxygenases Miguel Branco , Blizard Institute	
	11:30 am – 11:45 am	Natural epigenetic variation of L1s across human individuals Amy Leung , City of Hope	
	11:45 am – 12:00 pm	The role of transposable elements in diseases of the nervous system Zelia Ferreira Worman , National Institutes of Health	
12:00 pm – 1:00 pm	LUNCH and Meet the Speaker Session		
1:00 pm – 4:30 pm	Group Activity		
4:30 pm – 6:00 pm	Scientific Session 7: Repurposed and domesticated transposons		
	4:30 pm – 5:00 pm	Transposase and host factor determinants of target site selection by DNA transposons Chair: Zoltán Ivics , Paul-Ehrlich-Institut	
	5:00 pm – 5:30 pm	Mechanism and function of human piggybac transposable element derived PGBD5 in neurogenesis and cancer Alex Kentsis , Memorial Sloan Kettering Cancer Center	
	5:30 pm – 5:45 pm	How to build a new transcription factor: a novel bat-specific KRAB-transposase fusion gene acts as a transcriptional repressor Rachel Cosby , University of Utah	
	5:45 pm – 6:00 pm	Lighthouses for safe harbors: using mobile element insertions to identify genomic regions for gene therapy Jinchuan Xing , Rutgers, State University of New Jersey	
6:00 pm – 7:00 pm	DINNER		

Friday, June 23, 2017

Time	Title/Topic Event	
7:30 am – 12:00 pm	Conference Registration	
7:30 am – 9:00 am	BREAKFAST	
7:30 am – 12:00 pm	Conference Registration	
9:00 am – 11:30 am	Scientific Session: LINE-1 in cancers	
	9:00 am – 9:30 am	L1 retrotransposons can evade somatic repression and initiate tumorigenesis in normal human colon tissues
		Chair: Scott Devine , University of Maryland
	9:30 am – 10:00 am	The origins and impact of L1 retrotransposition in mammalian cancer
		Geoff Faulkner , University of Queensland
	10:00 am – 10:15 am	<i>FASEB Sponsored Coffee Break</i>
	10:15 am – 10:45 am	p53 and the Game of Transposons
		John Abrams , University of Texas, Southwestern
	10:45 am – 11:00 am	LINE-1 and the cell cycle: protein localization and functional dynamics
		Paolo Mita , New York University
	11:00 am – 11:15 am	Autonomous and Pervasive transcription decoupling reveal transcriptional activity of LINE-1 in somatic tissue and their impact on tumors
		Fabio Navarro , Yale University
11:15 am – 11:30 am	<i>Wrap up & Recap</i>	
		Kathleen Burns
12:00 pm	LUNCH to Go and DEPARTURES	

END OF CONFERENCE

For additional information contact:
FASEB Science Research Conferences
9650 Rockville Pike
Bethesda, MD 20814

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Lightning Talks Introducing Poster Session I (A-I)

Daniel Ardeljan

Mechanisms of LINE-1 cytotoxicity revealed by a genome-wide knockout screen

Mayank Choudhary

Role of transposable elements in the evolution of higher-order chromosomal structures in mammals

Christopher Faulk

Transposon specific DNA methylation changes induced by Bisphenol A in both mice and humans

Trenton Frisbie

A Strategy to Identify Host Factors that Affect L1 Retrotransposition-mediated Reporter Gene Silencing

Clément Goubert

Gene regulation by polymorphic mobile element insertion in human populations

Lightning Talks Introducing Poster Session II (J-R)

Ying Jin

TEpeaks: A tool for rescuing reads covering transposable elements in ChIP-seq data

Binyamin Knisbacher

Integrating networks and comparative genomics reveals retroelement proliferation dynamics

Lingqi Kong

Evaluating the retrotransposition potential from different mouse L1 subfamilies

Christopher Playfoot

Genome Defence in Hypomethylated Developmental Contexts

Lavanya Rishishwar

Positive selection on recent human transposable element insertions

Lightning Talks Introducing Poster Session III (S-Z)

Sarven Sabunciyan

Implications of Repetitive Element Transcription and Splicing in the Human Brain

Joe Su

Predicting the Impact on Chromatin of Novel Transposable Element Insertions

Sunny Sun (Xiaoji)

A Genome-Wide siRNA Screen Uncovers DNA repair factors that Restrict LINE-1 Retrotransposition in Human Cells

David Venuto

Comparative expression analysis in primate immune cells reveals putatively exapted transposable element families

Janet Young

Evolutionary analysis of LINE-1 interacting proteins