
Wednesday 11 October 2017

11:00 - 12:50	Arrival and Registration ATC Registration Desk	
12:50 - 13:00	Welcome remarks ATC Auditorium	
13:00 - 18:00	Session 1: Evolution and Genomics (Chair: John Moran) ATC Auditorium	
13:00 - 13:30	Monkeying Around at LSU Mark Batzer <i>Louisiana State University, United States of America</i>	1
13:30 - 14:00	Roles for mobile elements in human disease Kathleen Burns <i>Johns Hopkins University School of Medicine, United States of America</i>	2
14:00 - 14:15	Selection against LTR retrotransposons is balanced by locally adapted transposable element alleles in <i>Arabidopsis thaliana</i> Michelle Stitzer <i>University of California, Davis, United States of America</i>	3
14:15 - 14:30	Transposable element-driven reorganization of 3D chromatin during early embryonic development Juanma Vaquerizas <i>Max Planck Institute for Molecular Biomedicine, Germany</i>	4
14:30 - 14:45	Brain mosaicism mediated by LINE retrotransposons: insights from a zebrafish model Thomas Widmann <i>GENYO, Spain</i>	5
14:45 - 15:00	The LTR retrotransposons DGLT-A and Ty3 use different protein contacts to interact with RNA polymerase III transcription complexes Thomas Winckler <i>University of Jena, Germany</i>	6

15:00 - 15:30	Coffee Break and Meet the Speakers ATC Auditorium Foyer	
15:30 - 16:00	Comparative transcriptome analyses support an overall neutral and TE-driven model of circRNA formation and evolution Henrik Kaessmann <i>Heidelberg University, Germany</i>	7
16:00 - 16:30	Epigenetic variation in Arabidopsis Magnus Nordborg <i>Gregor Mendel Institute of Molecular Plant Biology, Austria</i>	8
16:30 - 17:00	Epimutants reveal a surprising connection between RNA directed DNA methylation and microRNA function in maize Damon Lisch <i>Purdue University, United States of America</i>	9
17:00 - 17:30	Coffee Break ATC Auditorium Foyer	
17:30 - 17:45	A Enhancer of zeste like methyltransferase catalyzes both H3 lysine 9 and 27 trimethylation and mediates transcriptional repression of transposable elements Sandra Duhaucourt <i>Institut Jacques Monod, CNRS, UMR7592, Sorbonne Paris Cité, France</i>	10
17:45 - 18:00	The Role of the NSL complex in the piRNA pathway in D. melanogaster Shantanu Iyer <i>Max Planck Institute of Immunobiology and Epigenetics, Germany</i>	11
18:00 - 19:00	Germline reprogramming and epigenetic inheritance of transposable elements in plants: how to avoid BadKarma Robert Martienssen <i>Cold Spring Harbor Laboratory, United States of America</i>	12

19:00 - 21:30 **Welcome reception with band**
ATC Auditorium Foyer

Thursday 12 October 2017

09:00 - 10:30	Session 1 (cont.): Evolution and Genomics ATC Auditorium	
09:00 - 09:30	KRAB-transposase fusion as a source of new regulatory proteins in evolution Cedric Feschotte <i>Cornell University, United States of America</i>	13
09:30 - 10:00	GxE in worm and fish Eric Miska <i>University of Cambridge, United Kingdom</i>	14
10:00 - 10:15	The HUSH complex cooperates with KAP1 to silence young retrotransposons Luisa Robbez-Masson <i>University College London, United Kingdom</i>	15
10:15 - 10:30	LTR-retrotransposon control by tRNA-derived small RNAs Andrea Schorn <i>Cold Spring Harbor Laboratory, United States of America</i>	16
10:30 - 11:00	Coffee Break kindly sponsored by Nature Reviews Genetics and Meet the Speakers ATC Auditorium Foyer	
11:00 - 12:30	Session 2: Host Defense Strategies (Chair: Julius Brennecke) ATC Auditorium	
11:00 - 11:30	Small RNA-directed DNA elimination of transposon-related sequences in Tetrahymena Kazufumi Mochizuki <i>Institute of Human Genetics (IGH) CNRS-University of Montpellier UMR9002, France</i>	17

11:30 - 12:00	Rapid Evolution of Cross-Species Incompatibility in the piRNA Pathway	18
	William Theurkauf <i>University of Massachusetts Medical School, United States of America</i>	
12:00 - 12:15	A nuclear export factor (Nxf) variant is required for small RNA-guided transcriptional silencing of transposable elements in <i>Drosophila melanogaster</i>	19
	Julia Batki <i>Institute of Molecular Biotechnology, Austria</i>	
12:15 - 12:30	First demonstration of the direct role of the piRNA pathway as key player in genome maintenance	20
	Bridlin Barckmann <i>IGH Institute of Human Genetics, Montpellier, France</i>	
12:30 - 14:00	Lunch ATC Auditorium Foyer	
14:00 - 18:00	Session 2 (cont.): Host Defense Strategies ATC Auditorium	
14:00 - 14:30	Molecular mechanisms of CRISPR-Cas systems	21
	Martin Jinek <i>University of Zurich, Switzerland</i>	
14:30 - 15:00	The Role of a Host-encoded LINE-1 ORF1 Homolog in Retrotransposon Proliferation	22
	Timothy Bestor <i>College of Physicians and Surgeons of Columbia University, United States of America</i>	
15:00 - 15:15	Control of Ty1 LTR-Retrotransposition by the RNA-binding protein Pbp1	23
	Amanda Hall <i>University of Toronto, Canada</i>	

EMBO | EMBL Symposium: The Mobile Genome: Genetic and Physiological Impacts of Transposable Elements

- 15:15 - 15:30 **Molecular mechanisms and regulation of Ty1 retrotransposon integration site selection** 24
Pascale Lesage
Inserm, CNRS, Université Paris Diderot, Sorbonne Paris Cité, Hôpital St. Louis, France
- 15:30 - 16:00 **Coffee Break kindly sponsored by Nature Reviews Genetics and Meet the Speakers**
ATC Auditorium Foyer
- 16:00 - 16:30 **RNA silencing, epigenetics and non Mendelian inheritance in plants** 25
David Baulcombe
University of Cambridge, United Kingdom
- 16:30 - 17:00 **Transposable elements, their polydactyl controllers and the specificity of human biology** 26
Didier Trono
Ecole Polytechnique Fédérale de Lausanne, Switzerland
- 17:00 - 17:30 **DNA methyltransferase(s), transposons and spermatogenesis** 27
Deborah Bourc'his
Institut Curie, France
- 17:30 - 17:45 **Discovery of novel genomic domains with high amounts of transposon sequences** 28
Soichiro Yamanaka
Keio University School of Medicine, Japan
- 17:45 - 18:00 **DNA damage checkpoint and piRNAs mediate a robust transposon-domesticating response in germline stem cells** 29
Zhao Zhang
Carnegie Institution for Science, United States of America
- 18:00 - 20:00 **Poster Session 1 – Odd numbers**
ATC Helix A

20:00 - 21:30 **Dinner in Canteen**
EMBL Canteen

21:30 - 23:00 **After dinner drinks in the ATC Rooftop Lounge**
ATC Rooftop Lounge

Friday 13 October 2017

09:00 - 12:30	Session 3: Mobility Mechanisms (Chair: Orsolya Barabas) ATC Auditorium	
09:00 - 09:30	Influence of LTR-retrotransposon activity on asymmetric centrosome inheritance M. Joan Curcio <i>Wadsworth Center, NY Department of Health, United States of America</i>	30
09:30 - 10:00	Replicative DNA Transposition in Eukaryotes Fred Dyda <i>National Institute of Diabetes and Digestive and Kidney Diseases, United States of America</i>	31
10:00 - 10:15	A single active site in the mariner transposase cleaves DNA strands of opposite polarity Ronald Chalmers <i>University of Nottingham, United Kingdom</i>	32
10:15 - 10:30	The second life of Sleeping Beauty: Deciphering the mechanism of a resurrected DNA transposon for genome engineering Irma Querques <i>EMBL Heidelberg, Germany</i>	33
10:30 - 11:00	Coffee Break and Meet the Speakers ATC Auditorium Foyer	
11:00 - 11:30	The ultra-processive reverse-transcriptases of non-LTR retrotransposons and group II introns: Molecular mechanisms and implications for disease Anna Pyle <i>Yale University, United States of America</i>	34
11:30 - 12:00	Molecular characterization of the ORF1 protein from the human LINE-1 retrotransposon Oliver Weichenrieder <i>Max Planck Institute for Developmental Biology, Germany</i>	35

12:00 - 12:15	RNA ligation precedes U6/LINE-1 retrotransposition John Moldovan <i>University of Michigan, United States of America</i>	36
12:15 - 12:30	On how to hit Line-1's Achilles heel. A cooperative mechanism of Mov10 and TUTases in restricting retrotransposition. Zbigniew Warkocki <i>Institute of Biochemistry and Biophysics Polish Academy of Sciences, Poland</i>	37
12:30 - 14:00	Lunch ATC Auditorium Foyer	
14:00 - 18:30	Session 4: Co-option and Physiological Impacts (Chair: Jose Luis García Pérez) ATC Auditorium	38
14:00 - 14:30	Site-specific recombination in mammals Wei Yang <i>National Institute of Diabetes and Digestive and Kidney Diseases, United States of America</i>	39
14:30 - 15:00	RAG recombinase and ProtoRAG transposase: Mechanistic links between evolutionary relatives David Schatz <i>Yale School of Medicine, United States of America</i>	40
15:00 - 15:15	Elucidating the role of transposable element-induced mutations in <i>Drosophila melanogaster</i> immune response Josefa González <i>Institute of Evolutionary Biology (CSIC-UPF), Spain</i>	41
15:15 - 15:30	Sequence-independent identification of active retrotransposons in <i>Arabidopsis</i> Jayne Griffiths <i>University of Cambridge, United Kingdom</i>	

15:30 - 16:00	Onco-exaptation of endogenous retroviral LTR promoters	42
	Dixie Mager <i>Terry Fox Laboratory, British Columbia Cancer Agency and University of British Columbia, Canada</i>	
16:00 - 16:30	Coffee Break and Meet the Speakers	
	ATC Auditorium Foyer	
16:30 - 17:00	Induction and co-option of SINEs during herpesviral infection	43
	Britt Glaunsinger <i>University of California, Berkeley, United States of America</i>	
17:00 - 17:30	Developing new genomic approaches to study LINE-1 activation in human cells	44
	Gael Cristofari <i>Institute for Research on Cancer and Aging of Nice (IRCAN), France</i>	
17:30 - 17:45	The adaptability of the conjugative transposon Tn1549 and its implications for transferring vancomycin resistance between bacteria	45
	Lotte Lambertsen <i>EMBL Heidelberg, Germany</i>	
17:45 - 18:00	Genomic mosaicism generated by LINE-1 retrotransposition during early human embryonic development	46
	Martin Muñoz-Lopez <i>GENYO, Spain</i>	
18:00 - 18:30	Thermostable Group II Intron Reverse Transcriptases (TGIRTs)	47
	Alan Lambowitz <i>University of Texas at Austin, United States of America</i>	
18:30 - 20:30	Poster Session 2 – Even numbers	
	ATC Helix A	

Programme

20:30 - 22:00 **Banquet Dinner**
EMBL Canteen

22:00 - 01:00 **Conference Party with DJ**
ATC Auditorium Foyer

Saturday 14 October 2017

09:00 - 10:30	Session 4 (cont.): Co-option and Physiological Impacts ATC Auditorium	
09:00 - 09:30	To be presented on site Doris Bachtrog <i>University of California, United States of America</i>	48
09:30 - 10:00	Endogenous L1 retrotransposition in pluripotent cells and the brain Geoffrey Faulkner <i>University of Queensland, Australia</i>	49
10:00 - 10:15	Inhibition of LINE-1 retrotransposition by the Condensin II and GAIT complexes in epithelial cells Jacqueline Ward <i>Cleveland Clinic, United States of America</i>	50
10:15 - 10:30	Somatic transposition drives genetic heterogeneity of aging adult stem cells Katarzyna Siudeja <i>Institut Curie, France</i>	51
10:30 - 11:00	Coffee Break and Meet the Speakers ATC Auditorium Foyer	
11:00 - 12:00	Keynote Session 2 ATC Auditorium	
11:00 - 12:00	Mobile Element activity in brain, behavior, and evolution Fred Gage <i>Salk Institute for Biological Studies, United States of America</i>	52
12:00 - 13:00	Session 4 (cont.): Co-option and Physiological Impacts ATC Auditorium	

12:00 - 12:15	Resolving the prevalence of somatic transposition in <i>Drosophila</i>	53
	Christoph Treiber <i>Centre for Neural Circuits and Behaviour, United Kingdom</i>	
12:15 - 12:30	LINE-2 transposable elements shape post-transcriptional gene regulation in the human brain	54
	Rebecca Petri <i>Lund University, Sweden</i>	
12:30 - 13:00	Six domesticated PiggyBac transposases together carry out programmed DNA elimination in <i>Paramecium</i>	55
	Mireille Bétermier <i>Université Paris-Saclay, France</i>	
13:00 - 13:10	Closing Remarks	
	ATC Auditorium	
13:10 - 13:30	Packed lunch and departure	
	ATC Auditorium Foyer	