

# 19<sup>th</sup> course on Epigenetics - March 13-20, 2024

## A Training Unit International Course

Wednesday, March 13 <sup>th</sup>		Chairs: Geneviève Almouzni and Nathalie Dostatni	
09:00	<b>Training Unit</b> Institut Curie	Welcome: practical aspects	Amphithéâtre Hélène Martel-Massignac (BDD) 11-13 rue Pierre & Marie Curie, 75005 Paris
09:30	<b>Geneviève Almouzni &amp; Nathalie Dostatni</b> Institut Curie, Paris - FR	Presentation of the course by the organizers & scientific committee	
	<b>Brunch Committee</b>	Presentation of the brunch	
09:45	<b>Students presentation &amp; personal work</b>	Short presentation of background and research interest (1 mn each)	
10:30	<b>BREAK and GROUP PHOTO</b>		
11:00 11:45	<b>Geneviève Almouzni</b> Institut Curie, Paris - FR	<b>Shaping chromatin and cell fate, a choreography involving histones and partners</b>	
12:00 12:45	<b>Pierre-Antoine Defossez</b> Epigenetics & Cell fate, Université Paris Cité, Paris - FR	<b>Mechanisms of DNA methylation maintenance</b>	
13:00	<b>LUNCH</b>		Green Cafe
14:00	<b>ALUMNI SESSION</b>		
14:00 14:20	<b>Joke Van Bommel</b> Genmab, Amsterdam - NL	<b>Chromatin to Corporate: from navigating the chromatin maze to driving an Ai/ML antibody revolution</b>	Amphithéâtre Hélène Martel-Massignac (BDD) 11-13 rue Pierre & Marie Curie, 75005 Paris
14:30 14:50	<b>Vincent Pasque</b> Katholieke Universiteit, Leuven - BE	<b>Modelling Early Human Development with Naïve Pluripotent Stem Cells</b>	
15:00 17:30	<b>Paul Liam Harrison</b>	<b>Epigenetic Imagin(ing) workshop</b>	Annexes BDD
17:30	<b>BREAK (BDD Hall)</b>		
18:00 19:00	<b>Keynote Lecture : Denis Duboule</b> University of Geneva, Switzerland	<b>Using pseudo-embryos to understand the Hox timer</b>	Amphithéâtre Hélène Martel-Massignac (BDD)
<b>WELCOME RECEPTION</b>			

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Thursday, March 14 <sup>th</sup>		Chairs: Ines Drinnenberg & Iva Simeonova	
09:30 10:15	<b>Angela Taddei</b> Institut Curie, Paris - FR	<b>Shedding new light on homology search</b>	
10:30 10:50	Article presentation by Misiorna Dorota & Yann Lustig	<b>SMC protein RecN drives RecA filament translocation for in vivo homology search.</b> Chimthanawala et al., PNAS, 2022, 119, e2209304119	
11:00	<b>BREAK (BDD Hall)</b>		<b>Amphithéâtre Hélène Martel-Massignac (BDD)</b> 11-13 rue Pierre & Marie Curie, 75005 Paris
11:30 12:15	<b>Sophie Polo</b> Epigenetics & Cell fate, Université Paris Cité, Paris - FR	<b>Epigenome maintenance in response to DNA damage</b>	
12:30 12:50	Article presentation by Rachel Martindale & Francesco Cardamone	<b>Epigenetic dysregulation from chromosomal transit in micronuclei.</b> Agustinus et al., Nature, 2023, 619:176-183.	
13:00	<b>LUNCH</b>		
14:00 15:45	<b>Deborah Bourc'his</b> Institut Curie, Paris - FR	<b>How to hit a moving target: multilayered control of transposable elements</b>	
15:00 15:20	Article presentation by Christine Moene & Valeriia Smialkowska	<b>Genome surveillance by HUSH-mediated silencing of intronless mobile elements.</b> Seczynska et al., Nature, 2022, 601:440-445.	
15:30	<b>BREAK (BDD Hall)</b>		<b>Amphithéâtre Hélène Martel-Massignac (BDD)</b> 11-13 rue Pierre & Marie Curie, 75005 Paris
16:00 16:45	<b>Leonid Mirny</b> MIT Boston - USA / Institut Curie, Paris - FR	<b>Confirmed</b>	
17:00 17:20	Article presentation by Iván Barberá Aura & Shaza Haydar	<b>Cohesin is required for long-range enhancer action at the Shh locus.</b> Kane et al., NSMB, 2022, 29 : 891–897.	
17:30 18:15	<b>Patricia Le Baccon &amp; Aurelien Dauphin</b> Institut Curie, Paris - FR	<b>Advanced microscopy to image the nucleus</b>	
18:30 20:30	<b>POSTER SESSION 1</b>		<b>Annexes BDD</b>

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Friday, March 15 <sup>th</sup>		Chairs: Daniele Fachinetti & Heloise Muller	
09:30 10:15	<b>Nathalie Dostatni</b> Institut Curie, Paris - FR	<b>Imaging transcription in living embryos</b>	Amphithéâtre Hélène Martel-Massignac (BDD) 11-13 rue Pierre & Marie Curie, 75005 Paris
10:30 10:50	Article presentation by Shaswati Sarbagna & Miguel Sambrano Lopez	<b>Stepwise modifications of transcriptional hubs link pioneer factor activity to a burst of transcription.</b> Cho & O'Farrell, Nature Comm., 2023, 14:4848.	
11:00 11:30	<b>BREAK (BDD Hall)</b>		
11:30 12:15	<b>Nadine Vastenhouw</b> Université de Lausanne, Lausanne - CH	<b>The spark of life. The role of nuclear organization in transcription</b>	
12:30 12:50	Article presentation by Laure De Chancel & Charis Fountas	<b>The landscape of pioneer factor activity reveals the mechanisms of chromatin reprogramming and genome activation.</b> Miao et al., Molecular Cell, 2022, 82 : 986–1002	
13:00	<b>LUNCH (BDD Hall)</b>		<b>Green Cafe</b>
14:00 14:45	<b>Petra Hajkova</b> Imperial College London, Laondon - UK	<b>The epigenetic regulation of the germ line</b>	Amphithéâtre Hélène Martel-Massignac (BDD) 11-13 rue Pierre & Marie Curie, 75005 Paris
15:00 15:20	Article presentation by Yuri D'Alessio & Gunwant Patil	<b>Loss of epigenetic information as a cause of mammalian aging.</b> Yang et al., Cell, 2023, 186:305-326	
15:30	<b>Visit of the Curie museum</b>		
16:00	<b>BREAK (BDD Hall)</b>		
16:30 17:15	<b>Antoine Coulon</b> Institut Curie, Paris - FR	<b>Structure, dynamics and mechanics of interphase chromosomes</b>	
17:30 17:50	Article presentation by Elena Testoni & Nicolas Pellet	<b>Condensate-driven interfacial forces reposition DNA loci and measure chromatin viscoelasticity.</b> Strom et al., bioRxiv preprint, 2023.	
18:00 18:45	<b>Epi talk : Daniel Milo</b>		

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Saturday, March 16 <sup>th</sup>		
11:00	<b>CAREER DEVELOPMENT WORKSHOP</b>	
	Organizer: Pablo Leiva and Shubamay Das	
	15 minutes discussion tables with	Cafeteria Institut Curie 25 rue d'Ulm, 1st floor, 75005 Paris
14:00	<b><u>FREE AFTERNOON</u></b>	

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## A Training Unit International Course

Monday, March 18th		Chairs: Antoine Coulon & Nathalie Dostatni	
09:30 10:15	<b>Ines Drinnenberg</b> Institut Curie, Paris - FR	<b>Evolution of centromeres: Diverse architectures yet conserved function</b>	Amphithéâtre Hélène Martel-Massignac (BDD) 11-13 rue Pierre & Marie Curie, 75005 Paris
10:30 10:50	Article presentation by Valeryia Aksianiuk & Baptiste Rivoirard	<b>Repeat-based holocentromeres influence genome architecture and karyotype evolution.</b> Hofstatter et al., Cell, 2022, 185 : 3153-3168.	
11:00	<b>BREAK (BDD Hall)</b>		
11:30 12:15	<b>Daniele Fachinetti</b> Institut Curie, Paris - FR	<b>Genetics and epigenetics regulation of centromere specification</b>	
12:30 12:50	Article presentation by Morgana Dalla Palma & Alexis Esteves	<b>DiMeLo-seq: a long-read, single-molecule method for mapping protein-DNA interactions genome wide.</b> Altemose et al., Nature Methods, 2022, 19 : 711-723.	
13:00	<b>LUNCH</b>		Green Cafe
14:00 14:45	<b>Marieke Oudelaar</b> Max Planck Institute, Goettingen - DE	<b>Regulation of gene expression in the 3D genome</b>	Amphithéâtre Hélène Martel-Massignac (BDD) 11-13 rue Pierre & Marie Curie, 75005 Paris
15:00 15:20	Article presentation by Meritxell Novillo Font & Karen Yaacoub	<b>In vivo dissection of a clustered-CTCF domain boundary reveals developmental principles of regulatory insulation.</b> Anania et al., Nature Genetics, 2022, 54 : 1126-1136.	
15:30	<b>BREAK (BDD Hall)</b>		
16:00 16:45	<b>Daniel Larson</b> National Institute of Health, Betesda - US	<b>Transcriptional Specificity through Kinetic Proofreading</b>	
17:00 17:20	Article presentation by	<b>From Silencing to Gene Expression: Real-Time Analysis in Single Cells.</b> Janicki et al., Cell, 2004, 116, 683-698.	
17:30 18:15	<b>Movie projection : La Saga des Nobels</b>		
18:30 20:30	<b>POSTER SESSION 2</b>		Annexes BDD

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Tuesday, March 19 <sup>th</sup>		Chairs: Iva Simeonova & Angela Taddei	
09:30 10:15	<b>Olivier Ayrault</b> Institut Curie, Paris - FR	<b>Impact of Chromatin Alterations in Medulloblastoma formation</b>	<b>Amphithéâtre Hélène Martel-Massignac (BDD)</b> 11-13 rue Pierre & Marie Curie, 75005 Paris
10:30 10:50	Article presentation by Julie Primault & Sarah Stucchi	<b>A neurodevelopmental epigenetic programme mediated by SMARCD3– DAB1–Reelin signalling is hijacked to promote medulloblastoma metastasis.</b> Zhou et al., Nature Cell Biology, 2023, 25 : 493–507	
11:00	<b>BREAK (BDD Hall)</b>		
11:30 12:15	<b>Hugues de Thé</b> College de France, Paris - FR	<b>PML nuclear bodies, at the cross-road of post-translational modifications and leukemia therapies</b>	
12:30 12:50	Article presentation by Aaliya Khan & Oliver Meers	<b>Pediatric glioma histone H3.3 K27M/G34R mutations drive abnormalities in PML nuclear bodies.</b> Voon et al., 2023, Genome Biology, 24 : 284.	
13:00	<b>LUNCH</b>		<b>Green Cafe</b>
14:00 14:45	<b>Marc Marti-Renom</b> Center for Genomic Regulation, Barcelona - SP	<b>Spatio-temporal regulatory landscape of sex-determination</b>	<b>Amphithéâtre Hélène Martel-Massignac (BDD)</b> 11-13 rue Pierre & Marie Curie, 75005 Paris <b>11-13 rue Pierre &amp; Marie Curie, 75005 Paris</b>
15:00 15:20	Article presentation by Noemie Alonso & Melissa Poysat Sansone	<b>Nonlinear control of transcription through enhancer–promoter interactions.</b> Zuin et al., 2022, Nature, 604 : 571.	
15:30	<b>BREAK (BDD Hall)</b>		
16:00 16:45	<b>Florence Cavalli</b> Institut Curie, Paris - FR	<b>Epigenetics and data integration towards a better understanding of tumors</b>	
17:00 17:20	Article presentation by Sarah Manoury & Charlène Sueur	<b>Epigenetic regulation during cancer transitions across 11 tumour types.</b> Terekhanova et al., Nature, 2023, 623 : 432.	
17:30	<b>IMAGING PLATFORM VISIT with Patricia Le Baccon &amp; Aurélien Dauphin</b>		<b>Pasteur Imaging Platform</b>
19:30	<b>FAREWELL COCKTAIL &amp; PRIZE CELEBRATION - BUFFET DINNER</b>		<b>Chez Marie</b>

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Wednesday, March 20 <sup>th</sup>		Chairs: Geneviève Almouzni & Leonid Mirny	
09:30	<b>Debriefing of the course</b>		<b>Amphithéâtre Hélène Martel-Massignac (BDD)</b> 11-13 rue Pierre & Marie Curie, 75005 Paris
10:00 10:45	<b>Pablo Navarro</b> Pasteur Institute, Paris - FR	<b>Mechanisms of gene regulatory inheritance through mitosis</b>	
11:00	<b>BREAK (BDD Hall)</b>		
11:30	<b>Keynote Lecture : Wendy Bickmore</b> The University of Edinburgh, Edinburgh - UK	<b>3D genome organisation and the long-range control of gene expression</b>	
13:00	<b>LUNCH</b>		
	<b>FAREWELL &amp; DEPARTURE</b>		