



Thursday, May 16th , 2019

Venue:  
Conference room, Instituto de Neurociencias  
(UMH-CSIC)

- **Victor Corces** Emory University
- **Biola M Javierre** Josep Carreras Leukaemia Research Institute
- **Alexander Kukalev** Max-Delbrück-Centrum für Molekulare Medizin
- **Marian Martinez-Balbas** Institut de Biologia Molecular de Barcelona
- **Yijun Ruan** The Jackson Laboratory Cancer Center
- **Tanya Vavouri** Josep Carreras Leukaemia Research Institute
- **Grzegorz Wilczynski** Nencki Institute of Experimental Biology

+ selected short talks

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Organized by: Angel Barco & Jose P. Lopez-Atalaya

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## Speakers line-up

	<p><b>Victor Corces</b> - Emory University (Atlanta, AT, USA) Victor is a world-renowned geneticist and distinguished educator, one of the most prominent figures in the field of chromatin structure and transcription. He is Chair of the Department of Biology in Emory and Howard Hughes Medical Institute (HHMI) Investigator.</p> <p><u>A few recent articles:</u> Rowley et al., <i>Cell Rep</i> 2019; Jung &amp; Corces, <i>Mol Cell</i> 2019; Xu &amp; Corces, <i>Nat Protoc</i> 2019; Rowley &amp; Corces, <i>Nat Rev Genet</i> 2018; Nichols &amp; Corces, <i>Nat Struct Mol Biol</i> 2018; Xu &amp; Corces, <i>Science</i> 2018.</p>
	<p><b>Biola M Javierre</b> - Josep Carreras Leukaemia Research Institute (Barcelona, Spain) Biola is an authority on the study of 3D chromatin organization. Key achievements include the design of new experimental and computational methods for studying the DNA packaging, the description of novel promoter interactomes and the pioneer interpretation of non-coding SNPs.</p> <p><u>A few recent articles:</u> Choy et al., <i>Nat Comm</i> 2018; Beekman et al., <i>Nat Med</i> 2018; Novo et al., <i>Cel Rep</i> 2018; Burren et al., <i>Genome Biol</i> 2018; Aymard et al., <i>Nat Struct Mol Biol</i> 2017; Javierre et al., <i>Cell</i> 2016.</p>
	<p><b>Alexander Kukalev</b> - Max-Delbrück-Centrum für Mol. Medizin (Berlin, Germany) Alexander is a Senior Researcher in the group of Ana Pombo, one of the leader labs developing new techniques for the study of 3D chromatin organization. He is applying these techniques to Neurosciences.</p> <p><u>A few recent articles:</u> Ferrai et al., <i>Mol Sys Biol</i> 2017; Dias et al., <i>eLife</i> 2015.</p>
	<p><b>Marian Martinez-Balbas</b> - Institut de Biologia Molecular (Barcelona, Spain) Marian is a CSIC Investigator with a long trajectory investigating the role of epigenetic regulators in gene transcription during development. Her lab investigates the role of histone methylation during neurogenesis, the contribution of epigenetic defects in mental retardation and the changes in genome architecture that accompany cell fate determination.</p> <p><u>A few recent articles:</u> Le Dreau et al., <i>eLife</i> 2018; Fueyo et al., <i>NAR</i> 2018; Asensio-Juan et al., <i>NAR</i> 2017; Sanchez-Cid et al., <i>Oncotarget</i> 2017; Aziku &amp; Martinez-Balbas, <i>Neurogenesis</i> 2016.</p>
	<p><b>Yijun Ruan</b> - The Jackson Laboratory for Genomic Medicine (Farmington, CT, USA) Yijun is a world-renowned genome biologist who pioneered the field of 3D genome biology and the current Director of the Jackson Laboratory for Genomic Medicine. He has developed several essential new techniques, such as ChIA-PET, to identify long-range chromatin interactions and to elucidate topological mechanisms of transcription regulation.</p> <p><u>A few recent articles:</u> Zheng et al., <i>Nature</i> 2019; Zhang et al., <i>Genome Res</i> 2019; Vian et al., <i>Cell</i> 2018; Lin et al., <i>Nat Genet</i> 2018; Li et al., <i>Nat Prot</i> 2017; Tang et al., <i>Cell</i> 2015.</p>
	<p><b>Tanya Vavouri</b> - Josep Carreras Leukaemia Research Institute (Barcelona, Spain) Tanya is a young and promising genome researcher with strong computational background. Her lab investigates the mechanisms of trans/inter-generational epigenetic inheritance and the impact of epigenetic drugs on gene expression and genome packaging.</p> <p><u>A few recent articles:</u> Lu et al., <i>Cell Metab</i> 2018; Klosin et al., <i>Science</i> 2017; Jorda et al., <i>Genome Res</i> 2017; Dalgaard et al., <i>Cell</i> 2016; Pantano et al., <i>RNA</i> 2015.</p>
	<p><b>Grzegorz Wilczynski</b> - Nencki Institute of Experimental Biology (Warsaw, Poland) Grzegorz is a prominent neuromorphologist, cell biologist and pathologist who has pioneered the development of optical methods to investigate nuclear architecture dynamics underlying synaptic plasticity. He has developed an automated high-throughput analysis and a novel electron-microscopic 3D DNA <i>in situ</i> hybridization technology to investigate neuronal nuclei architecture.</p> <p><u>A few recent articles:</u> Roszkowaska et al., <i>Mol Biol Cell</i> 2016; Tang et al., <i>Cell</i> 2015; Pitkanen et al., <i>Prog Brain Res</i> 2014; Ito et al., <i>Nat Comm</i> 2014.</p>

# “Neuroscience Meets 3D Genome Biology”

## IN-Alicante Workshop

Thursday, May 16th, 2019

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Organised by Angel Barco & José P. López-Atalaya

09:00 Welcoming

Chair: Angel Barco

09:10 **Chromatin interaction and transcription regulation**

Yijun Ruan - The Jackson Laboratory for Genomic Medicine, Farmington, CT, USA

10:00 **Three-dimensional electron-microscopic in situ hybridization (3D-EM-ISH), a novel tool for studying chromatin architecture**

Grzegorz Wilczynski - Nencki Institute of Experimental Biology, Warsaw, Poland

10:40 **3D chromatin landscape of the rare cell types in mouse brain**

Alexander Kukalev - Max-Delbrück-Centrum für Molekulare Medizin, Berlin, Germany

11:20 Coffee break

Chair: Jose P. Lopez-Atalaya

11:40 **Dissecting molecular mechanism of complex genetic trait by chromatin interaction analysis**

Minji Kim - The Jackson Laboratory for Genomic Medicine, Farmington, CT, USA

12:05 **Transgenerational epigenetic inheritance in animals**

Tanya Vavouri - Josep Carreras Leukaemia Research Institute, Barcelona, Spain

12:45 **10x Genomics developments**

13:00-15:30 Lunch

13:00-15:30 **Hands-on workshop 10xGenomics on scAT-AC-seq**

Chair: Eloisa Herrera

15:30 **Changes in 3D chromatin organization during the differentiation of pancreatic beta cells**

Victor Corces - Emory University, Atlanta, AT, USA

16:20 **JMJD3 integrates lineal and tridimensional information at neural enhancers**

Marian Martínez-Balbás - Institut de Biologia Molecular de Barcelona, Barcelona, Spain

17:00 **Role of Pipsqueak, a domesticated transposase, in chromatin, transposon regulation and cancer**

María Domínguez - Instituto de Neurociencias (UMH-CSIC), Alicante, Spain

17: 25 Coffee break

Chair: María Domínguez

17:40 **Immediate and deferred epigenomic signature of neuronal activation**

Jordi Fernandez-Albert - Instituto de Neurociencias (UMH-CSIC), Alicante, Spain

18:05 **3D lineage-specific genome architecture: Understanding the contribution of non-coding variants to disease development**

Biola M Javierre - Josep Carreras Leukaemia Research Institute, Barcelona, Spain

18:45 Open questions and Farewell

Sponsors:

