



PRINCIPE FELIPE  
CENTRO DE INVESTIGACION

The Future of Biomedical Research Lecture Series

Genome-wide study of transcription complexity and ribosome dynamics

Speaker: **Dr. Vicent Pelechano**

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Date: **23/03/18- 12:30h**

Place: Sal6n de Actos CIPF

**Abstract:** One of the biggest challenges in biology is to understand how apparently identical cells respond differently to the same stimulus. During the last decade, thanks to the development of genomics tools, research has uncovered extensive variability in the RNA molecules present within the cells.

In the past we have developed a diversity of novel genome-wide approaches to study eukaryotic gene expression using both budding yeast and mammalian cells. By simultaneously sequencing both the 5' and 3' ends of each RNA molecule ([TIF-Seq](#)), we showed that the complexity of overlapping transcript isoforms had been greatly underestimated even in a genetically homogeneous population of cells. More recently, we have shown how the existence of widespread co-translational mRNA degradation allows studying ribosome dynamics by sequencing mRNA degradation intermediates ([5P-Seq](#)).

I will discuss our current efforts to study transcriptome complexity and its implications for gene expression regulation.

More info: <http://pelechanolab.com/>

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