

# SCIENTIFIC SEMINAR

Host: Francisco Blanco



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*Structural Characterization of*  
*Macromolecular Assemblies,*  
*IRB (Barcelona)*

## Structural basis for genome-wide recognition of DNA clusters by SMAD transcription factors

Friday,  
December 13  
Atrio 800.  
12.00H

CIC bioGUNE



EXCELENCIA  
SEVERO  
OCHOA

TGF $\beta$ - and BMP-activated R-Smads were believed to have different preferences with respect to the recognition of DNA motifs, and to respond to specific activation inputs. However, recent results indicate that several types of R-Smads can be activated by similar receptors and that all Smads might recognize various DNA motifs. These results pose new questions as to why different types of R-Smads have been conserved for more than 500 million years if they have a redundant function. They also raise questions as to how different Smad complexes recognize specific clusters of DNA motifs genome-wide. Here, using structural biology approaches, we elucidate some of the rules that help define the composition of Smad complexes and propose how these complexes could influence the recognition of specific cis regulatory elements genome-wide.