

Oral presentation

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Transcription regulation: a genomic network

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from BioSysBio: Bioinformatics and Systems Biology Conference
Edinburgh, UK, 14–15 July 2005

Published: 21 September 2005

BMC Bioinformatics 2005, **6**(Suppl 3):S1

The transcriptional regulatory system plays a central role in directing gene expression changes in response to internal and external stimuli. In this talk, I will present our group's computational studies on transcription regulation in yeast, ranging from large-scale experimental studies to computational analyses of regulatory networks. In the first half I will introduce results from ChIp-chip experiments that identify genome-wide DNA-binding sites of transcription factors, particularly focusing on the cell cycle regulatory system. In the second half I will discuss how these observations fit in with the idea of a genomic regulatory network, and examine the effects of such networks on gene expression levels. Finally, I will introduce the concept of dynamic network usage in the context of transcription regulation, and how specific regulatory pathways are employed to bring about these transitions.

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