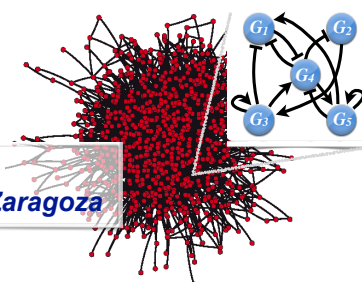


Network Models in Cellular Regulation

June 1, 2015
World Trade Center Zaragoza



9:20 - 9:30 Opening remarks (Erzsébet Ravasz Regan & Vera Pancaldi)

Section 1 - Regulatory dynamics and regulatory network evolution

9:30 - 10:10 **Gábor Balázi** - *How predictable is regulatory network evolution?*
Laufer Center for Physical and Quantitative Biology,
Biomedical Engineering Department, Stony Brook University

10:10 - 10:50 **Sebastian Ahnert** - *Power graph compression reveals the architecture of transcription networks*
Cavendish Laboratory, University of Cambridge, King's College

10:50 - 11:10 **Pan-Jun Kim** - *Deciphering the Kernel Structure in the Regulatory Network of the Plant Circadian System*
(winning contributed talk)
Asia Pacific Center for Theoretical Physics, Pohang

11:10 - 11:30 **Lucia Bandiera** - *In vitro/in silico analysis of phenotypic noise under transcriptional and post-transcriptional control in elementary synthetic gene-circuits*
Laboratory of Cellular and Molecular Engineering "S. Cavalcanti",
University of Bologna

11:30 - 11:50 **Coffee Break**

Section 2 - Regulatory networks in health and disease

11:50 - 12:30 **Anaïs Baudot** - *Network approaches for human complex diseases*
CNRS - Aix-Marseille Université, Marseilles

12:30 - 1:10 **Christopher Banerji** - *Mapping tissue development and heterogeneity in health and disease with signaling entropy*
Centre for Mathematics and Physics in the Life Sciences and
Experimental Biology (CoMPLEX) University College London

1:10 - 1:30 **Alessandro Rinaldi** - *Reverse Engineering the Multiplexity of Inflammatory Diseases*
Computer Laboratory, University of Cambridge

1:30 - 3:00 **Lunch Break**

Section 3 - Design principles of regulatory networks

3:00 - 3:40 **Benjamin Pfeuty** - *Design principles of differentiation regulatory networks*
CNRS, Université de Lille Sciences et Technologies, Paris

3:40 - 4:20 **Florian Buettner** - *Unravelling gene regulatory networks for differentiating stem cells*
The EMBL-European Bioinformatics Institute (EMBL-EBI), Cambridge

4:20 - 4:40 **Coffee Break**

Section 4 - Epigenetics mechanisms in cellular regulation

4:40 - 5:20 **Daniel Rico** - *Network approaches to decipher epigenetic communication in embryonic stem cells*
Spanish National Cancer Research Centre (CNIO), Madrid

5:20 - 6:00 **Guillaume Filion** - *Integrated reporters reveal distinct pathways of gene silencing in Drosophila*
Centre of Genomic Regulation (CRG), Barcelona

6:00 - 6:20 **Krzysztof Poterłowicz** - *Modelling of Carbon Copy Chromatin Conformation Capture(5C) and ChIP-Seq profiles reveal a high-resolution spatial genomic proximity network controlling epidermal keratinocyte differentiation*
University of Bradford, Bradford

6:20 - 6:40 **Biola-Maria Javierre** - *High-resolution analysis of genomic regulatory architecture in multiple human cell types with Promoter-Capture HiC*
Babraham Institute, Nuclear Dynamics Programme, Cambridge

Panel Discussion

6:40 - 7:00 *The future of mechanistic modeling in biology*
Theme: What is missing from our conceptual or technical repertoire?