

## **PROGRAMME**

Plenary lectures, oral presentations as well as the session of the Spanish's Systems Biology network will be allocated as follows. Posters will be allocated early Thursday until Friday late afternoon.

**Wednesday, May 31st 2006**

**18.00-20.00 Registration**

**Thursday, June 1st 2006**

**8.00-10.00 Registration**

**8.30-9.30 Symposium Welcome**

**9.30-10.30 Plenary Lecture**

*J. J. Heijnen. DUT (Delft, The Netherlands).*  
**In-vivo kinetics of metabolic networks.**

**10.30-11.00 Coffee break**

**11.00-13.20 Systems Biology: Fundamentals and tools**

**11.00-11.30**

*E. Klipp. Max Plank Institut for Molecular Genetics (Germany)*  
**Computational modelling of yeast cell stress response.**

**11.30-12.00**

*P. Ruhdal Jensen. BioCentrum-DTU (Lyngby, Denmark).*  
**Tunable promoters for Systems Biology: applied to prokaryotic model systems.**

**12.00-12.20**

*E. Pareja. Bioinformatics Unit, Era7 Information Technologies (Granada, Spain).*  
**ExtraTrain**

**12.20-12.40**

**A. Sorribas.** *Departament de Ciències Mèdiques Bàsiques. Universitat de Lleida (Lleida, Spain).*

**Identification of quantitative design principles of the response of yeast to stress conditions.**

**12.40-13.00**

**E. Stalidzans.** *Latvian University of Agriculture. Faculty of Information Technologies (Jelgava, Latvia).*

**Biological control system approach in description of dynamics of biological object.**

**13.00-13.20**

**M.R Foulquié Moreno.** *Vrije Universiteit Brussel, Laboratory of Genetics and Microbiology (MICR) (Brussel, Belgium).*

**A novel system for the fine tuning of genes.**

**13.20-15.00 Lunch and Poster Session**

**15.00-17.00 Oral Presentations (Cont.)**

**15.00-15.20**

**I. Surovtsova.** *EML Research gGmbH, Schloss-Wolfsbrunnenweg 33, 69118 (Heidelberg, Germany).*

**Two approaches on dynamical dimension reduction for Biochemical Systems.**

**15.20-15.40**

**I. Rojas.** *Scientific Databases and Visualization Group, EML Research gGmbH (Heidelberg, Germany).*

**A Curated Database for Reaction Kinetics.**

**15.40-16.00**

**J.J. Rodríguez-Herva.** *Department of Biochemistry and Molecular and Cellular Biology of Plants. Estación Experimental del Zaidín. CSIC (Granada, Spain).*

**A systems biology approach to the study of the *Pseudomonas putida* genome.**

## **16.00-19.00 Systems Biology Applications: BioMedicine**

### **16.00-16.30**

**M. Cascante.** *University of Barcelona (Barcelona, Spain).*  
A Systems Biology approach to identify and exploit for cancer therapy the fragilities of the robust tumor metabolism.

### **16.30-16.50**

**J. Hormiga.** *Grupo Tecnología Bioquímica y Control Metabólico, Departamento de Bioquímica y Biología Molecular. Universidad de La Laguna. (La Laguna, Spain).*  
A Power-Law model with delay to describe the dynamic behaviour of JAK2-STAT5 pathway: From the modelling strategy to the analysis of the properties

### **16.50-17.20 Coffee break**

### **17.20-19.00 Oral Presentations (Cont.)**

#### **17.20-17.40**

**J. F. Poyatos.** *Spanish National Cancer Centre, CNIO (Madrid, Spain).*  
Robust control of stem cell differentiation in *Drosophila*.

#### **17.40-18.00**

**E. Balsa-Canto.** *IIM-CSIC, Spanish Council for Scientific Research (Vigo, Spain).*  
Computational Design of Optimal Dynamic Experiments in Systems Biology: a Case Study of Cell Signalling.

#### **18.00-18.20**

**J. Ceron.** *Massachusetts General Hospital Cancer Center and Harvard Medical School (Massachusetts, USA).*  
Towards a functional map for spliceosome components in *C. elegans*.

#### **18.20-18.40**

**J. Buceta.** *Parc Científic and Tecnològic. (Barcelona, Spain).*  
**Drosophila's wing imaginal disk: establishment of the dorsoventral boundary.**

**18.40-19.00**

**A. Garriga.** *Transcription Network Team. National Center for Biotechnology-CSIC (Madrid, Spain).*  
**Sigma54 factor: evolutionary history of a regulon.**

**18.30-20.00** **Creation and meeting of the Spanish's Systems Biology network. Task Groups.**

**20.30** **Reception University/City Council**

**Friday, June 2nd 2006**

**9.00-10.00 Plenary Lecture**

**U. Klingmüller.** *German Cancer Research Center (Heidelberg, Germany).*

**Dynamic pathway modeling of the JAK-STAT signaling cascade.**

**10.00-10.40 Systems Biology Applications: BioMedicine (Cont)**

**10.00-10.20**

**M. Ibañes.** *Gene Expression Laboratory, The Salk Institute for Biological Studies. (USA). Departament Estructura i Constituents de la Matèria, Universitat de Barcelona (Barcelona, Spain).*

**Cell Lineage Transport: a Mechanism for Molecular Gradient Formation.**

**10.20-10.40**

**M. I. Klapa.** *Metabolic Engineering and Systems Biology Laboratory. Institute of Chemical Engineering and High Temperature Chemical Processes (ICE-HT). Foundation for Research and Technology, Hellas (FORTH) (Patras, Greece)*

**Cerebral cortex vs cerebellum: Metabolomic Analysis of Mouse Brain Tissue**

**10.40-11.10 Coffee break**

**11.10-13.30 Systems Biology Applications: Bioprocesses**

**11.10-11.40.**

**N. Lindley.** *Laboratoire Biotechnologie-Bioprocédés, INSA (Toulouse, France)*

**Network modelling of *E. coli* and metabolic engineering for threonine production: filling in the gaps using transcriptome analysis.**

**11.40-12.10**

V. Bernal. *Dept. Biochemistry and Molec. Biol. B and Immunol. University of Murcia.(Murcia, Spain).*

**Key enzymes expression and their relationship with energetic coenzyme pools after perturbations in the production of L-carnitine by *Escherichia coli***

**12.10-12.30**

T. Çakir. *Bogaziçi University, Department of Chemical Engineering, 34342 (Istanbul, Turkey).*

**Effect of Carbon Source Perturbations on Transcriptional Regulation of Metabolic Fluxes in *S. cerevisiae*.**

**12.30-13.30 Plenary Lecture**

M. Reuss. *University of Stuttgart (Stuttgart, Germany).*

**Measuring and modeling the dynamics of networks in *Escherichia coli*.**

**13.30-15.00 Lunch and Poster session**

**15.00-16.00. Oral Presentations (Cont.)**

**15.00-15.20**

R. Cunin. *Genetics and Microbiology.Vrije Universiteit Brussel (Brussel, Belgium).*

**A Mathematical Model for Arginine Biosynthesis in *E.coli*.**

**15.20-15.40**

K. V. Venkatesh. *Department of Chemical Engineering, Indian Institute of Technology.*

**Evaluation of fluxes of elementary modes through linear programming: Applied to *Corynebacterium glutamicum*.**

**15.40-16.00**

A. Trigo. *Protein Design Group, National Center for Biotechnology-CSIC, Spain. (Madrid, Spain).*

**The Global Biodegradation Network: Who works here?**

**16.00-16.30 Coffee break**

## 16.30-18.10. Oral Presentations (Cont.)

### 16.30-16.50

**C. Nicolas.** *LBB/INSA, UMR-CNRS 5504 UMR-INRA 792 (Toulouse, France).*

**Adaptative response of the central metabolism in *E. coli* to the quantitative modulation of a single enzyme: glucose-6-phosphate dehydrogenase.**

### 16.50-17.10

**A. Esteve-Núñez.** *Centro de Astrobiología. Instituto Técnico Aeroespacial (INTA) (Madrid, Spain). University of Massachusetts, Amherst (Massachusetts, USA).*

**Constraint-based *in silico* modeling of the Fe(III)-reducing bacteria *Geobacter sulfurreducens*: giving insights into the subsurface microbial activity during uranium bioremediation.**

### 17.10-17.30

**M. Cocaign-Bousquet.** *Laboratoire Biotechnologie-Bioprocédés, UMR 5504 INSA/CNRS & UMR 792 INSA/INRA (Toulouse, France).*

**Adaptation of *Lactococcus lactis* to stress: integration of transcriptome and stabilome data.**

### 17.30-17.50

**D. Molenaar.** *NIZO food research, Wageningen Centre for Food Sciences (WCFS), Kluyver Centre for Genomics of Industrial Fermentation, The Netherlands.*

**Systems Biology of lactic acid bacteria: towards understanding and controlling its growth and performance.**

### 17.50-18.10

**P. Ferrer.** *Department of Chemical Engineering, Escola Tècnica Superior d'Enginyeria, Universitat Autònoma de Barcelona (Bellaterra, Spain).*

**Metabolic Flux Profiling of *Pichia pastoris* grown on glycerol/methanol mixtures in chemostat cultures at low and high dilution rates**

**18.10-19.10 Closing Plenary lecture**

U. Sauer. ETH (Zurich, Switzerland).

Experimental analysis and computational prediction of metabolic fluxes. |

**19.10- Concluding remarks**

**20.30 Symposium Dinner**