



## RESEARCH CONFERENCES

ESF-UB Conference in Biomedicine

# European Conference on Synthetic Biology (ECSB): Design, Programming and Optimisation of Biological Systems

Hotel Eden Roc, Sant Feliu de Guixols • Spain  
24-29 November 2007

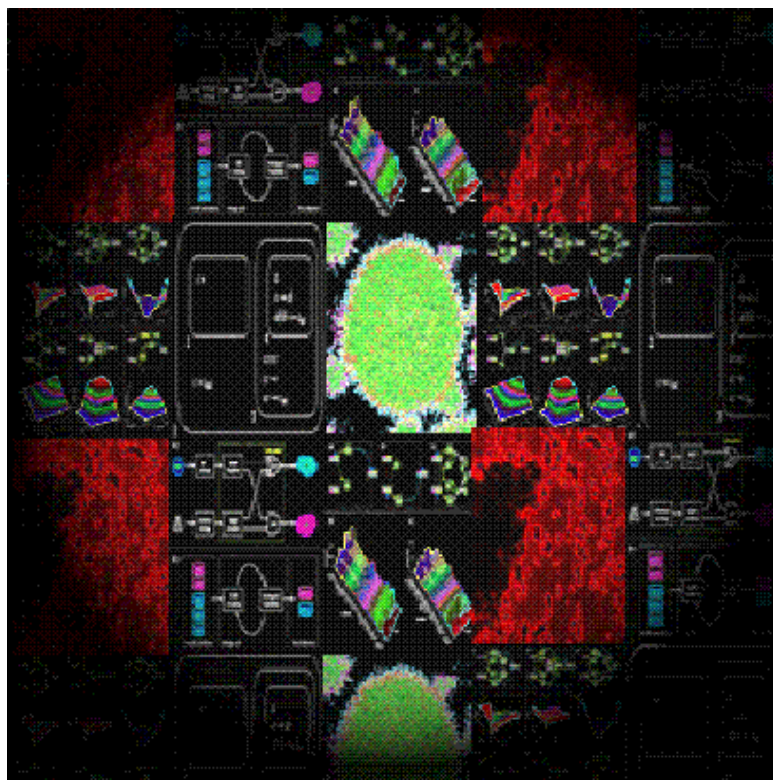
Chair: **Alfonso Valencia**, CNIO Madrid, ES

Co-Chairs: **Natalio Krasnogor**, University of Nottingham, UK

- **Sven Panke**, ETH, Zürich Institute of Process Engineering, CH

- **Victor de Lorenzo**, Centro Nacional de Biotecnología, Madrid, ES

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# Final Programme

## Saturday - 24 November

Late afternoon / early evening	Registration at the ESF-RC desk
19.00	Welcome Drink
20.00	Supper

## Sunday - 25 November

09.00-09.30	Conference Opening and Chair Welcoming
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## Tutorials

Chair: Alfonso Valencia, CNIO, ES

09.30-11.15	<b>S. Panke</b> ETH, CH <i>General review and developments on synthetic biology</i>
11.15-11.45	Coffee break
11.45-13.30	<b>P. Herdewijn</b> Katholieke Universiteit, BE <i>The contribution of nucleic acids chemistry to synthetic biology</i>
13.30	Lunch
15.30-17.15	<b>N. Krasnogor</b> University of Nottingham, UK <i>Computational modelling and optimisation for SB</i>
17.15-17.45	Coffee break
17.45-19.30	<b>P.L. Luisi</b> ETH & Università degli Studi di Roma Tre, IT <i>What is Life? An outopoesis perspective</i>
19.30	Dinner
21.00-22.30	Poster session I

## Monday - 26 November

## Session 1 : Biology of Minimal Genomes & Evolution

Chair: Victor de Lorenzo, Centro Nacional de Biotecnología, ES

09.00-9.50	<b>A. Moya</b> Universidad de Valencia, ES <i>Genomic "deconstruction": an up-to-down approach to build a cell</i>
9.50-10.40	<b>D. Ussery</b> The Technical University of Denmark, DK <i>Characterization of minimal genomes across bacterial and archaeal phyla</i>

10.40-11.10	Coffee break
11.10-12.00	<b>S. Andersson</b> Uppsala Universitet, SE <i>The Russian Dolls: On the stability of small genomes</i>
12.00-12.50	<b>M. Gouy</b> Université Claude Bernard - Lyon 1, FR <i>Non reversible models of evolution</i>
13.00	Lunch
14.30-15.20	tbc
15.20- 15.40	<b>G. Postfai</b> Hungary Academy of Science, HU <i>Engineering a Rationally Designed Reduced-Genome Escherichia coli</i>
15.40-16.00	Coffee break

## Session 2 : Showcase of Synthetic Biosystems

Chair: Sven Panke, ETH, CH

16.00-16.50	<b>A. Danchin</b> Institut Pasteur, FR <i>Will we be able to construct a synthetic bacterium?</i>
16.50-17.40	<b>V. de Lorenzo</b> Centro Nacional de Biotecnología, ES <i>Engineering vs. evolution of effector specificities in transcriptional factors</i>
17.40-18.00	Coffee break
18.00–18.20	<b>M. Hadi</b> Sandia National Laboratories, US <i>Synthetic Biology for Biofuels</i>
18.20-19.10	<b>A. Jaramillo</b> Ecole Polytechnique, FR <i>Automatic Design of Genetic Systems</i>
19.10-19.30	Coffee break
19.30-20.20	<b>V. dos Santos</b> Helmholtz Center for Infection Research, DE <i>Streamlining and reprogramming Pseudomonas putida for biocatalysis</i>
20.20-20.40	<b>G. Rodrigo</b> Universidad Politecnica de Valencia, ES <i>Design of synthetic molecular clocks</i>
20.40	Dinner
22.20-23.20	Poster Session II

## Tuesday - 27 November

### Session 3: Simulations

Chair: **Christos Ouzounis**, Kings College, UK

- 09.00-09.50 **D. Lancet**  
Weizmann Institute of Science, DE  
*Stability to mutations in simulated prebiotic networks*
- 09.50-10.40 **P.L. Luisi**  
ETH & Università degli Studi di Roma Tre, IT  
*Chemical sides of synthetic biology: from the never born proteins to semi-synthetic minimal cells*
- 10.40-11.10 Coffee break
- 11.10-11.30 **L. Cronin**  
Glasgow University, UK  
*Growth of Dynamic Cellular Structures in Real Time Using Inorganic Building Blocks:*  
*Coupling Symmetry Breaking, Self Assembly and Dissipative Systems*
- 11.30-11.50 **F. Notka**  
University of Regensburg, DE  
*Programming a GFP gene to mimic late HIV-mRNAs: A quasi-lentiviral GFP reporter exhibiting nuclear export features of late human immunodeficiency virus type 1 transcripts*
- 11.50-12.10 Coffee break

### Session 4: Systems Analysis

Chair: **Siv Andersson**, Uppsala Universitet, SE

- 12.10–12.50 **J. Poyatos**  
CNIO, ES  
*Genetic control circuitry at the core of cell fate Determination*
- 12.50-13.30 **S. Brunak**  
Technical University of Denmark  
*Interactomes, systems and disease*
- 13.30–14.50 Lunch
- 14.50-15.30 **J. Stelling**  
ETH, CH  
*Robustness of engineered genetic circuits*
- 15.30-16.10 **C. Ouzounis**  
Kings College, UK  
*Development of computational methods for synthetic biology*
- 16.10-19.00 Free time
- 19.00 – 20.30 *Panel Discussion: “Roadmap to minimal artificial cells”*  
Chair : **A. Jaramillo ; P.L. Luisi, S. Rasmussen, D. Lancet**
- 20.30 Dinner

## Wednesday - 28 November

### Session 5: Infrastructure for Synthetic Biology

Chair: Natalio Krasnogor, University of Nottingham, UK

- 09.00-09.50 **R. Rettberg**  
The Registry of Standard Biological Parts, US  
*iGEM and the Registry of Standard Biological Parts*
- 09.50-10.40 **A. Valencia**  
CNIO, ES  
*Bioinformatics infrastructure for synthetic biology*
- 10.40-11.10 Coffee break
- 11.10-12.00 **J. Sharpe**  
Centre for Genomic Regulation, ES  
*Towards a 4D computer simulation of vertebrate limb development*
- 12.00-12.20 tbc
- 12:20-12.40 **H. Schwer**  
Sloning Biotechnology, DE  
*Slonomics™ - A Unique Platform Technology For Tailoring Genetic Diversity*
- 13.00 Lunch

### Session 6: Funding and Industry Links for SB

Chair: Andres Moya, Universidad de Valencia, ES

- 15.00-15.30 **I. Economidis**  
European Commission, FP7, ES  
*Synthetic Biology in the EC and in the transatlantic debate*
- 15.30-16.00 **A. J. Collis**  
BBSRC, UK  
*Synthetic Biology: A Funder's Perspective*
- 16:00-16:30 Coffee break
- 16.30-16.50 tbc
- 16.50-17.10 **S. Gaisser**  
Fraunhofer Institute Systems and Innovation Research, DE  
*How can Europe be successful in Synthetic Biology?*
- 17.10-18.10 Coffee break

18.10 – 20.10      Poster Session III  
20.10                Get-together & Conference Dinner

### Thursday - 29 November

## Session 7: Synthetic Biology and its Future in Europe

Chair: **Alfonso Valencia, CNIO, ES**

9.00-10.30      *Panel Discussion: “Contrasting Global Opinions on Synthetic Biology”*  
Chair : **V. de Lorenzo ; I. Economidis, Markus Schmidt, Antoine Danchin, Randy Rettberg.**

10.30-11.30      Business Meeting (election of next ESF-UB conference chairs)

11.30 -12:00      Conference Closing Remarks by **A. Valencia**

12.00              Lunch

13.00              Departure

### Abstracts, Posters & Short Oral Presentations

Please note:

Invited talks have 50 minutes (including Q/A), except for those on session 4 which have 40 minutes (due to the planned free time)

Contributed talks have 20 minutes (including Q/A), except when explicitly allocated 30 minutes.

We have ~ 73 posters accepted which will be distributed in 3 sessions of ~ 25 posters each

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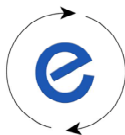
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