

The field of synthetic biology holds a great promise for the design, construction and development of artificial (i.e. man-made) biological (sub)systems, by offering viable new routes to 'genetically modified' organisms, smart drugs and hybrid computational-biological devices. The informed manipulation of such biological (sub)systems could have an enormous positive impact on our societies, with its effects being felt across a range of activities such as the provision of healthcare, environmental protection and remediation to the construction of smarter more ubiquitous bio-integrated computing systems, etc.

The basic premise of synthetic biology is that methods commonly used to build non-biological systems, such as those employed in the computational sciences and the engineering disciplines that can deal with large and complex systems, could also be used to specify, design, implement, test and deploy novel synthetic biosystems.

Synthetic biology lies at the interface of a variety of disciplines ranging from biology through chemistry, physics, computer science, mathematics and engineering. Although undeniably multidisciplinary, this nascent field of research has tended to be locked within the narrow remit of each of its constitutive disciplines. The specific overarching aim of this conference is thus to generate new vigorous interactions between the disciplines that impinge (and contribute to) Synthetic Biology.

ECSB 2007 will draw on international expertise from, on the one hand, Biological disciplines (e.g. Genomics, Proteomics, Metabolomics, etc), and on the other hand, Computational and Engineering experts to present a balanced overview of the very latest key technologies and research advances as pertaining to Synthetic Biology in general and the quest for minimal living forms in particular. The conference will bring together some of the most well known international researchers in their respective areas to (1) present introductory tutorials, (2) showcase, through papers and posters presentations, the latest research outputs on this nascent field and (3) to sow the seeds for a more robust and well connected multi-disciplinary research community in synthetic biology. We expect this to be a major international and multi-disciplinary scientific and educational event.

Some, but not all, of the topics to be presented in the conference include: DNA sequencing and synthesis, chemical and biological networks, computational techniques (modelling, data mining, optimisation) for synthetic biology, minimal genomes, evolution (natural, directed and simulated), origins of life, biological systems, cell cycles and circuits, infrastructures for synthetic biology, minimal cells, etc.

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 (Costa Brava) • Spain
24-29 November 2007

With support from



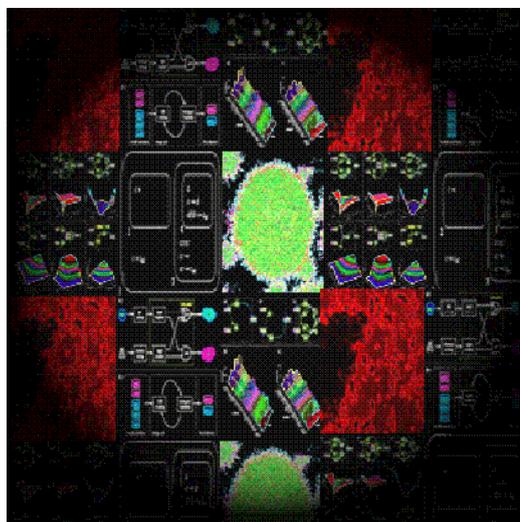
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ENFIN
Enabling Systems Biology

Frontiers of Functional
Genomics

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Chair: Alfonso Valencia, Spanish National Cancer Research Centre, ES
Co-Chairs: Natalio Krasnogor, Nottingham U., UK - Sven Panke, ETH, Zürich Institute of Process Engineering, CH - Victor de Lorenzo, Centro Nacional de Biotecnología, Madrid, ES

Invited Speakers will include

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|---------------------------------------|------------------------------------|
| S. Andersson, Uppsala U., SE | A. Moya, Valencia U., ES |
| S. Brunak, TU Denmark, DK | C. Ouzounis, Wellcome Trust, UK |
| A. Danchin, Institut Pasteur, FR | S. Panke, ETH, CH |
| V. de Lorenzo, UAM, ES | J. Poyatos, CNIO Madrid, ES |
| M. Gouy, U. Claude Bernard, Lyon, FR | S. Rasmussen, TU Denmark, DK |
| P. Herdewijn, KU Leuven, BE | R. Rettberg, MIT, US |
| A. Jaramillo, Ecole Polytechnique, FR | J. Sharpe, CGR, ES |
| N. Krasnogor, Nottingham U., UK | J. Stelling, ICoS, CH |
| D. Lancet, Weizmann Institute, IL | E. Szathmáry, Eötvös Loránd U., HU |
| L. Luisi, ETH, CH | D. Uesery, BioCentrum-DTU, DK |
| V. Martin dos Santos, HZI, DE | A. Valencia, CNIO Madrid, ES |

Application Form & Programme available from

www.esf.org/conferences/07241

Some **grants** available for young researchers to cover the conference fee and possibly part of the travel costs.

Closing Date for Application 7 September 2007

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