



European Summer School on Industrial Biotechnology:

Bioprocess design and optimisation for the production of recombinant proteins: Concepts, tools, methods and current challenges

Barcelona, 5-9th September, 2016

The European Summer School on Industrial Biotechnology (ESSIB) is organized by the University of Milano-Bicocca (Department of Biotechnology and Biosciences), the University of Stuttgart (Institute of Technical Biochemistry), and the Universitat Autònoma de Barcelona (Department of Chemical, Biological and Environmental Engineering). ESSIB addresses PhD students and postdocs, preferentially from European laboratories, and will take place every year in a different country and with a different focus. ESSIB is a complete educational program based on lectures, practical laboratory experience, and contacts with companies active in the field.

After the first and second editions, hosted by the University Milano-Bicocca in 2014 and the University of Stuttgart in 2015, the third edition ESSIB 2016 will be hosted by the Universitat Autònoma de Barcelona, with focus on **Bioprocess design and optimization for the production of recombinant proteins**.

Course description

Intensive one-week course from Monday to Friday. Lectures and laboratory courses will be provided by local and invited speakers.

Confirmed lecturers

- Francesc Gòdia (UAB)
- Martí Lecina (UAB)
- Francisco Valero (UAB)
- Pau Ferrer (UAB)
- Pierre Monsan (INSA-Toulouse & TWB, France)
- Ralf Takors (University of Stuttgart, Germany)
- Alois Jungbauer (BOKU, Austria)
- Peter Neubauer (TUBerlin, Germany)
- Speaker from Rentschler Biotechnologie GmbH (Germany)

Major topics:

1. Fundamentals of bioprocess engineering. Principles of fermentation processes
2. Bioreactor design, modelling and simulation
3. Downstream process design
4. How to design and optimise mammalian cell processes for high-value therapeutics production
5. How to design and optimise microbial high cell density fermentation processes for recombinant protein production
6. Process Analytical Technologies (PAT) and Quality by Design (QbD) for product development and manufacturing
7. Single use technologies vs classical equipment
8. Design and economic analysis of bioprocesses for recombinant protein production
9. The industrial point of view, including a visit to a company, as well as the participation of invited lecturers from industry.

Laboratory courses

1. Analysing a bioprocess from raw data
2. Using computational tools for bioprocess design and simulation

Fees and registration

The policy of this Summer School is to keep fees as low as possible in order to support the participation of young researchers. Fees for this year are still to be determined, but will not exceed 500 €, including accommodation and lunch. A limited number of fellowships will be available to participants without traveling funds. Please inquire by mail.

To apply, please send by **May 31, 2016**

- a CV including current research topics
- a motivation letter
- a supporting letter by your supervisor to **ESSIB2016@uab.cat**

We will ask you to register and pay for the fees after this deadline.

Organisers and location

Pau Ferrer
Martí Lecina
Department of Chemical, Biological and Environmental Engineering
Universitat Autònoma de Barcelona

More details at: <http://www.ESSIB.eu>