

INVITED SPEAKERS

Mark Bedau, UNIVE - Universita ca'foscari di Venezia

Giovanni Bertoni, UMIL - Universita degli studi di Milano

Antoine Danchin, CEA - CEA/Genoscope

Victor de la Torre Russis, CNIO - Fundación Centro Nacional de Investigaciones Oncológicas Carlos III

Victor de Lorenzo, CSIC - Consejo superior de investigaciones científicas

Ianis Economidis, Commission of the European Communities

Alistair Eflück, Edinburgh University's School of Engineering

Brian Ingalls, University of Waterloo

Michalis Koutinas, IMPERIAL - The Imperial College of Science, Technology and Medicine

Ismail Mahmutoglu, BU - Bauer Umwelt GmbH

Vitor Martins dos Santos, HZI - Helmholtz-Zentrum fuer infektionsforschung GmbH

Andrés Moyá, Universitat de València

Frank Notka, GA - GENEART AG

Juli Peretó, Universitat de València

György Pósfai, BRC HAS - Magyar Tudományos Akademia Szegedi Biológiai Központja

Jan Roelof Van der Meer, UNIL - Université de Lausanne

Vincent Schachter, TOTAL

Markus Schmidt, IDC - Organisation for international dialogue and conflict management

Luis Serrano, Center for Genomic Regulation

Jörg Stelling, Eidgenössische Technische Hochschule Zürich

Javier Urchueguía, Universidad Politécnica de Valencia

Alfonso Valencia, CNIO - Fundación Centro Nacional de Investigaciones Oncológicas Carlos III

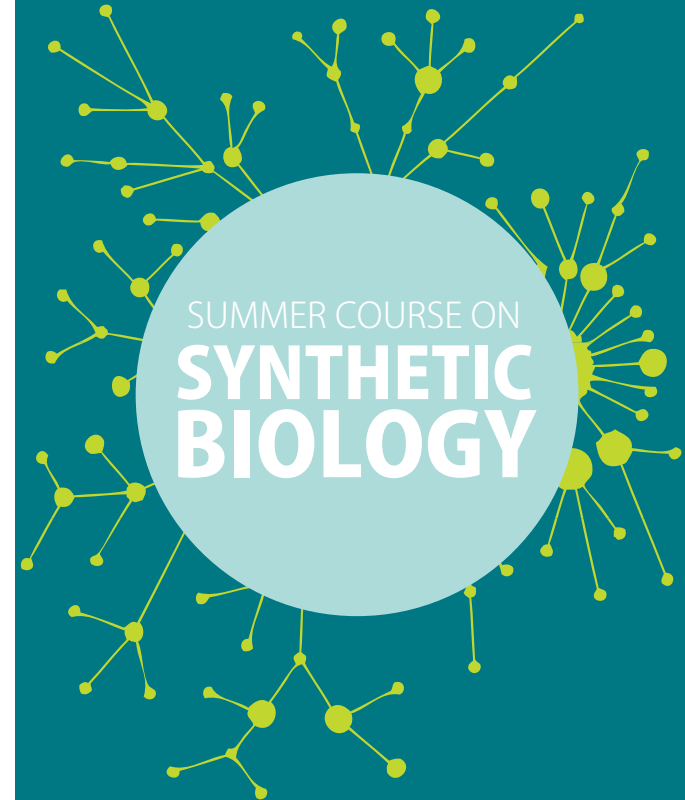
Ron Weiss, Princeton University



VNIVERSITAT
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Ciudad Politécnica de la Innovación



TARPOL PROJECT

Valencia, 19-23 April 2010

SUMMER COURSE ON SYNTHETIC BIOLOGY

Thinking of Synthetic Biology (SB) as a new field of technology in the intersection of biology and engineering, the importance of attracting and training new researchers in this discipline becomes evident. With this objective, Institute Cavanilles (University of Valencia) and Intertech Group of the Universidad Politécnica de Valencia have organized **Summer Course on Synthetic Biology**, within the framework of TARPOL (KBBE-212894).

This activity will be developed from two sides: training and motivational. For this reason, the program will combine the expertise of the organizers to train scientists from an interdisciplinary perspective, in order to offer a range of activities for young researchers from a wide range of fields. Summer Course on Synthetic Biology conference also includes lectures by the leading scientists of this new discipline on the constitutive principles underlying SB, which will allow attendees to see and understand the great possibilities of this new scientific area.

PROGRAM MONDAY, APRIL 19

- 09:00 Welcome
- 09:15 Introduction to the engineering paradigm applied to the creation of organisms with new features
- 10:15 Introduction to Systems Biology
- 11:30 Coffee break
- 12:00 Introduction to Synthetic Biology
- 13:15 Lunch
- 15:00 Track 1 (Advanced course drylab)
- 16:30 MATLAB Basic course and other codes often used in modeling
- 15:00 Track 2 (Laboratory techniques in SB)
- 16:30 Practice Session 1

TUESDAY, APRIL 20

- 09:00 Basic molecular biology: the transmission of information in biology. DNA, RNA and proteins
- 10:45 Coffee Break
- 11:15 Defining Synthetic Biology standards
- 13:00 Lunch
- 15:00 Track 1 (Advanced course drylab)
- 16:30 Basic genetic circuits and its modeling
- 15:00 Track 2 (Laboratory techniques in SB)
- 16:30 Practical session 2

WEDNESDAY, APRIL 21

- 09:00 Boolean logic in the genetic control of regulatory circuits
- 10:45 Coffee Break
- 11:15 Basic regulatory circuits
- 13:00 Lunch
- 15:00 Track 1 (Advanced course drylab)
- 15:00 Track 2 (Laboratory techniques in SB)
- 16:30 Practical session 3

THURSDAY, APRIL 22

- 09:00 Control theory applied to biology
- 10:45 Coffee Break
- 11:15 Application of bioinformatics to Synthetic Biology
- 13:00 Lunch
- 15:00 Track 1 (Advanced course drylab)
- 15:00 Track 2 (Laboratory techniques in SB)
- 16:30 Practical session 4

FRIDAY, APRIL 23

- 09:00 Applications of Synthetic Biology in biomedicine
- 10:15 Synthetic Biology applications in bioremediation
- 11:30 Coffee break
- 12:00 IGEN, an educational experience for the dissemination of SB among young scientists
- 13:00 Lunch
- 15:00 The SB in the European research agenda
- 15:30 SB and new businesses, what direction the economy XXI century?
- 16:00 Ethical and philosophical debate about the SB
- 16:30 Minimum Genomes and the development of new concepts SB chassis. Epilogue and summary of the course

NOTES

The laboratory practice of SB - "wetlab" - are aimed at researchers from technological branches who have no expertise, with the working principles of a molecular biology laboratory.

Practices of "drylab" are aimed at students from Life Sciences, with the intent to convey the basics of computer design in SB.

VENUE

Universidad Politécnica de Valencia · Centro Superior de Investigación en Salud Pública

MORE INFORMATION AND REGISTER ON LINE

www.intertech.upv.es · www.sb-tarpol.eu

 Track 1  Track 2

Trak 1 teachers:

Emilio Navarro, Universidad de Málaga
Arnau Montagud, Universidad Politécnica de Valencia

Trak 2 teachers:

María José Gosálbez, Centro Superior de Investigación en Salud Pública
Vicente Pérez, Centro Superior de Investigación en Salud Pública