



Bioeconomy school: from basic science to a new economy

Lake Como School of Advanced Studies, 24-28 May 2021

SCIENTIFIC PROGRAMME - 24-28 May 2021

Asynchronous Audio & Video Lectures

Module A: Introduction to Biosciences - *Antranikian, Pollegioni*

- a. Supply-demand analysis of metabolic systems and the results from -omic technologies: Piero Morandini (Università di Milano)
- b. Biocatalysis and biotransformation: Loredano Pollegioni (Università dell'Insubria)
- c. Enzyme discovery: Lars Giger (Novozymes)
- d. Lab experiments in molecular biology (PCR): Ralf Grote (TUHH Hamburg)

Module B: Introduction to Economics: *Seri, Vezzulli*

- a. Principles of economics: Raffaello Seri (Università dell'Insubria)
- b. Externalities: problems and solutions: Raffaello Seri (Università dell'Insubria)
- c. Incentives and public support: Andrea Vezzulli (Università dell'Insubria)
- d. Economics of Science and IPRs: Andrea Vezzulli (Università dell'Insubria)

Monday May 24th:

13:45 Welcome

14:00 Opening lecture: Italian strategy on Bioeconomy: Mario Bonaccorso (SPRING Cluster)

14:45 Module C: Tools for Bioeconomy: Biotechnology: *Ubiali, Pollegioni*

- 14:50 Enzymes for the production of value-added chemicals: Giovanna Speranza (Università di Milano)
- 15:30 Flow reactors to improve biocatalytic processes: Francesco Molinari (Università di Milano)
- 16:10 Feedstock for multi-product biorefineries: David Bolzonella (Università di Verona)
- 16:50 Case history: Fabrizio Adani (Università di Milano): Biogas, biomethane and nutrient recovery
- 17:30 Case history: Daniela Ubiali (Università di Pavia): Redesigning synthetic routes by biocatalysis: a case study
- 18:10 Q&A Session (for modules A-C)

Tuesday May 25th:

9:00 Module D: Law and Society – *Pozzo, Jacometti, Secchi*

- 9:10 EU legal framework: Barbara Pozzo, Valentina Jacometti (Università dell'Insubria)
- 9:50 Other relevant European experiences: Barbara Pozzo, Valentina Jacometti (Università dell'Insubria)
- 10:30 Anglo-american perspective: Mark Brewer (Lancaster University in Leipzig)
- 11:10 Virtual coffee break
- 11:30 Case history: Mark Brewer (Lancaster University in Leipzig): Bioeconomy and the fashion industry
- 12:10 Social dimension of bioeconomy: Davide Secchi (University of Southern Denmark)
- 12:50 Communication: Davide Secchi (University of Southern Denmark)
- 13:10 Q&A Session

Wednesday May 26th:

9:00 Module E: Tools for Bioeconomy: Economics - *Pyka, Vezzulli*

- 9:10 Economic analysis of Patent data: Andrea Vezzulli (Università dell'Insubria)
- 9:50 Bio-economic systems: concepts and dynamics: Andreas Pyka (Universität Hohenheim)
- 10:30 Life Cycle assessment: Matthy Janssen (University Chalmers)
- 11:10 Virtual coffee break
- 11:30 Circular bioeconomy: Kerstin Kuchta (TUHH Hamburg)

12:10 Q&A Session

12:30 Module F: Concepts for new innovative projects

- 12:40 Creative techniques and knowledge transfer: Martin Mahn (TUTech Innovation Hamburg)
13:20 Virtual lunch
- 14:30 Innovation session with Lego Serious Play – Exploring entrepreneurship: Katrin Elster
16:00 Virtual coffee break
- 16:15 Preliminary meeting of groups

Thursday May 27th:

9:00 Module G: Trends, Initiatives and Policies – Pyka, Marelli

- 9:10 Entrepreneurship, enterprise development methods, innovation and leadership: Armen Orujyan (Athgo and FAST)
- 9:50 Trends in food industry and examples of applied biotransformation: Christina Vafeiadi (Nestle)
10:30 Virtual coffee break
- 10:50 National initiatives within and outside Europe:
Ilaria Re (LGCA Cluster): Lombardy strategy on bioeconomy
Luisa Marelli (JRC): European strategy on bioeconomy
- 12:20 Transition to sustainability: Andreas Pyka (Universität Hohenheim)
- 13:00 Q&A Session
13:20 Virtual lunch
- 14:30 All groups prepare an innovative project by using the miro board

Friday May 28th:

- 9:00 Groups' activities:** all groups finalize their project
- 10:00 Projects' presentation and discussion (20 min each)
- 12:15 Best project award
- 12:30 Concluding remarks

Schedule:

	May 24th	May 25th	May 26 th	May 27th	May 28th
Morning		9.00 Module D "Law and Society"	9.00 Module E "Tools for Bioeconomy: Economics" 12.30 Module F "Concepts for new innovative projects"	9.00 Module G "Trends Initiatives and Policies"	9.00 Groups' projects 10.00 Presentation and discussion of students' projects 12.30 Concluding remarks
Afternoon	13:45 Opening 14:00 Mario Bonaccorso lecture 14:40 Module C "Tools for Bioeconomy: Biotechnology"		14.30 Module F "Concepts for new innovative projects" - Lego labs 16:15 Groups' project	14.30 Groups' project	