

DICCA SEMINARS

June 15th 2023, 4pm

Location: conference room "SALONE NOBILE" (Villa Cambiaso)



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Engineering microbes for industrial applications

Biotechnology is rapidly coming of age as enabling technology for the production of biobased chemicals and biofuels. In this task, it is aided by critical advancements in Metabolic Engineering that transform microbes into little chemical factories capable of converting renewable feedstocks to a variety of products. While in earlier years applications were limited to specialized chemicals and pharmaceutical products, recent advances have expanded the portfolio of biotechnological applications into the domain of commodity chemicals that have been traditionally the realm of chemical process industry using fossil fuels as feedstocks. In this talk I will present the basic concepts and tools of metabolic engineering and illustrate its use with applications to the production of various chemical products.

Short bio:

Greg N. Stephanopoulos is the Willard Henry Dow Professor in Chemical Engineering at the Massachusetts Institute of Technology. He has worked at MIT, Caltech, and the University of Minnesota in the areas of biotechnology, bioinformatics, and metabolic engineering especially in the areas of bioprocessing for biochemical and biofuel production. Stephanopoulos is the author of over 450 scientific publications with about 60,000 citations as of April 2023. In addition, he has supervised more than 70 graduate students and 50 post-docs whose research has led to more than 50 patents. He was elected to the National Academy of Engineering (2003) and has received more than 25 US and international awards including the ENI Prize on Renewable Energy in 2011.