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GIULIO NATTA

Protein technology at the service of white biotechnology

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live | online

Lecture hall MA3
Via Mancinelli 7, Milano

The seminar will be also
livestreamed on [Webex](#)

Biocatalysis has offered several solutions in industrial challenges over the last years, due to the recent advances on the field of protein evolution, as well as the prediction of structure and function, analysing tremendous amount of data with artificial intelligence and machine learning. The recent Nobel in Chemistry in 2018 for the discoveries on the directed evolution of proteins and on the phage display, highlighted the potential of protein evolution, but also underlined the need for high-throughput analytical tools, for the interrogation of the huge libraries stemming from protein evolution projects. Due to the inherited selectivity of some enzyme classes, biocatalysis has infiltrated with important processes at the field of cosmetics, pharma, biomaterials and food industry. In parallel, proteins themselves, as well as the products of enzymatic catalysis, are considered natural products, increasing thus their market value, while sustainable alternatives for energy and polymers have been suggested via this route. Thus, the demand for novel enzymes, robust biocatalysts and competitive processes is standing and growing. Herein, examples from our group on the evolution of protein for synthetic purposes will be presented, as well as approaches for the discovery of novel proteins and enzymes. Moreover, process development challenges according to green chemistry principles and cyclic economy will be discussed.

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