



DIPARTIMENTO DI FARMACIA E BIOTECNOLOGIE

Life & Chemical Sciences Seminars

SYSTEMS BIOLOGY OF REDOX NETWORKS AND THE ESSENCE OF SYN BIO

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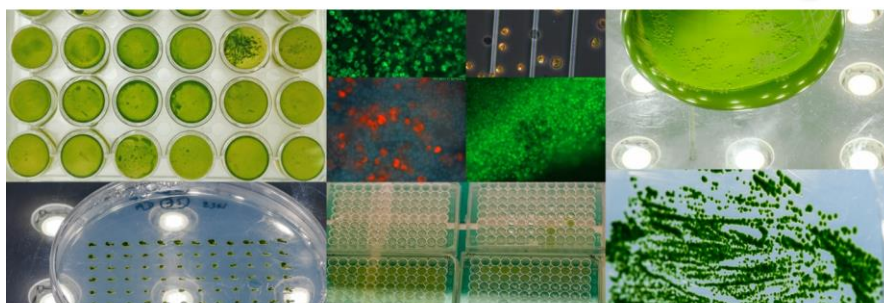
Giovedì 20 aprile 2017 ore 16:30 – Aula 1, Via Belmeloro 6

Siete invitati a partecipare e a diffondere tra i collaboratori

Abstract

Protein redox regulation and redox signaling mainly rely on a set of post-translational modifications of protein cysteine thiols essentially controlled by conserved oxidoreductases named thioredoxins and glutaredoxins. Using large scale proteomic approaches in the unicellular green alga *Chlamydomonas reinhardtii*, we have unraveled an intricate the redox network by identifying more than 1000 proteins regulated by thioredoxins, by nitrosylation or by glutathionylation. Targeted biochemical studies allowed to confirm the regulation of several proteins and to analyze the underlying molecular mechanisms.

Synthetic biology (SynBio) is emerging as a new discipline that aims at applying the principles of engineering (standardization, abstraction, iterative design) to biological systems. SynBio allows to tackle fundamental and technological questions using a new approach based on both synthesis and analysis. The principles of SynBio, its achievements and future challenges will be presented together with its applications in the field of redox biology.



Systems biology of redox networks and the essence of SynBio

Systems and Synthetic Biology of Microalgae
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