DIPARTIMENTO DI FARMACIA E BIOTECNOLOGIE

AVVISO DI SEMINARIO

Il giorno **mercoledì 15 Maggio 2019**
alle ore **17:00**
presso Aula A (Ex Farmacologia) via Irnerio 48

il **Dr. Stéphane D. Lemaire, Ph.D.**
Institut de Biologie Physico-Chimique, UMR8226 CNRS, Sorbonne Universités UPMC, Paris, France
(ospiti Prof M. Zaffagnini e Prof. P. Trost)

terrà un seminario dal titolo:

SYSTEMS AND SYNTHETIC BIOLOGY OF CARBON FIXATION

Colleghi e studenti sono cordialmente invitati

Commissione Ricerca e Attività Correlate - FaBiT

ABSTRACT

Redox regulation and signaling play a major role in numerous fundamental cell processes and participate in the mechanisms allowing cells to sense environmental changes and trigger adaptive responses. These regulations and signaling pathways are mainly operated by redox post-translational modifications, such as disulfide bond formation, glutathionylation or nitrosylation, which play a major role at the interface between the environment and the functional proteome. Using qualitative and quantitative large scale proteomic approaches in Chlamydomonas reinhardtii, we have unraveled an intricate redox network of more than 1000 proteins regulated by redox post-translational modifications. The Calvin-Benson cycle, responsible for photosynthetic carbon fixation, integrates multiple redox signals. Targeted biochemical and structural studies allowed to confirm the regulation of several proteins and to analyze the underlying molecular mechanisms. Synthetic biology approaches developed to study carbon fixation in Chlamydomonas will also be presented.