



DIPARTIMENTO DI FARMACIA E BIOTECNOLOGIE

AVVISO DI SEMINARIO

Il giorno mercoledì **16 Ottobre 2019**
alle ore **14:30**
presso Aula 1, via Belmeloro 6, Bologna

Prof Dr Andreas J. Meyer, Ph.D.
Chemical Signalling Lab, University of Bonn, INRES, Germany
(ospite Proff Zaffagnini e Trost)

terrà un seminario dal titolo:

REACTIVE OXYGEN, GLUTATHIONE AND GROWTH

Collegli e studenti sono cordialmente invitati

Commissione Ricerca e Attività Correlate - FaBiT

ABSTRACT

Formation of reactive oxygen species (ROS) is widespread in normal metabolism and as an early response to imposed environmental stress situations. ROS can inflict serious damage on biological systems but at the same time are also considered to be part of signalling cascades underlying the adaptive response of plants to different stress situations. While stress situations may cause pronounced oxidative stress, adaptive responses reconstituting highly reducing conditions in plasmatic compartments are essential for survival. The tripeptide glutathione is the most abundant non-protein thiol and is essential for numerous molecular processes related to detoxification and redox homeostasis. With its ability to change between reduced glutathione (GSH) and the oxidised form glutathione disulfide (GSSG), glutathione is a key redox buffer in the cell. Multiple processes including biosynthesis, degradation and transport are involved in maintaining glutathione homeostasis as a prerequisite for defence against environmental stress and maintenance of growth even under adverse conditions. The interaction of protein thiols with glutathione-dependent glutaredoxins enables redox equilibration of target proteins with the local glutathione redox potential and thus places glutathione as a putative transducer for integration of environmental information. The presentation will address molecular processes responsible for maintaining cellular redox homeostasis and the role of the cellular glutathione-system in redox signalling and plant growth.



Chemical Signalling Lab (Andreas Meyer)

The Chemical Signalling Lab investigates the physiological role of redox processes in plants. Our goal is to understand the dynamics of glutathione transport and the function of thiol-based redox-switches in regulating plant stress reactions and to identify switch elements that control plant performance.

https://www.redox.uni-bonn.de/en?set_language=en