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S E M I N A I R E

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« **Looking at proteins under force to study their rapid and dynamic modifications** »

A broad range of proteins experience mechanical perturbation in vivo. The growing field of molecular nanomechanics challenges this maturing concept in biology with the development of force spectroscopy to manipulate single molecule proteins. With the latest generation of Atomic Force Microscopes, we can now apply a wide range of forces to control and study, at a sub-Ångström resolution, the dynamics of proteins as they unfold, extend or refold in response to a mechanical perturbation.

Furthermore, we can monitor the time-course of various chemical or enzymatic reactions in order to study kinetics of protein post-translational modifications that could not be measured using a classic bulk approach.

I will present different examples that illustrate how looking at the extension of proteins under force can report detailed indications on the 3D structure and dynamics of proteins. In these different studies, the experimental recordings can capture transient conformational states, protease catalysis, redox reactions or the un/folding dynamics of proteins

Jeudi 15 septembre 2016
14h30

Salle de conférences