



## **L4H Seminar CRISTINA FLORS 'New directions in nanoscale imaging of DNA'**

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January 29, 2014

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Wednesday, January 29, 2014, 15:00. Seminar Room

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IMDEA-Nanociencia, Cantoblanco, SPAIN

Chromatin organization spans a wide range of structural complexity. Substructures at the 10-200 nm scale are poorly characterized, especially in living cells, due to the limitations of electron microscopy and standard optical microscopy. Super-resolution fluorescence microscopy methods represent an exciting opportunity to access those substructures, and recent progress using these techniques has yielded new insight into chromatin organization at different condensation stages. While early work on super-resolution imaging of chromatin was mainly carried out by labeling DNA-associated proteins (e.g. histones) with photoswitchable or photoactivatable fluorophores, strategies for direct labeling of DNA are

now being explored and refined.

In this talk I will discuss recent advances in super-resolution fluorescence microscopy based on single molecule photoswitching and localization (PALM/STORM techniques) of directly labeled DNA. Moreover, the combination of PALM/STORM with atomic force microscopy will be discussed in the context of DNA imaging. Direct comparison with high-resolution topography allows improving fluorescence labeling and image analysis in super-resolution imaging.

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**Hosted by Prof. Melike Lakadamyali**

