



SCUOLA
NORMALE
SUPERIORE
PISA

Colloqui Classe di Scienze

Mercoledì 24 febbraio 2010

ore 15.00

Scuola Normale Superiore

Pisa

(Sala Stemmi)

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Terrà un seminario dal titolo:

“Building Soft Matter from the Bottom up: a Computer Simulation Approach”

Abstract:

Soft matter comprises a variety of condensed matter systems like liquid crystals, polymers, colloids, gels, and a number of biological systems, whose structure can be easily modified thermally or by the intervention of external fields. Understanding these systems or developing new ones with specifically tailored functionalities relies on establishing a robust link between molecular features and macroscopic properties. This implies at first a generic understanding of the effects of shape, charge distribution etc. of the molecular building blocks on the resulting molecular organizations. However, a much more ambitious goal is that of predicting morphologies and properties at various temperatures and working conditions starting from a specific molecular structure and observing the transitions from one phase to another. In this Colloquium we plan to show some recent examples of the application of computer modelling and simulations to various areas of soft matter, in particular: liquid crystals with their phase transitions and topological defects; organic nanostructures, and proteins with their conformational changes, highlighting some recent advances and outstanding problems.

Classe di Scienze