



**DIPARTIMENTO DI FISICA "E.Fermi"**  
UNIVERSITÀ DI PISA  
**CORSO DI DOTTORATO IN FISICA**  
Largo B.Pontecorvo,3 - Edificio B-C  
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# **CORSO DI DOTTORATO IN FISICA** **AVVISO DI SEMINARIO**

**Venerdi 27 Giugno 2008**  
ore 10:00

**Dipartimento di Fisica**  
Largo B.Pontecorvo, 3  
**Sala 248 - I piano - Ed. C**

**Dott. Liberato Manna**

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## ***"SYNTHESIS, PROPERTIES AND PERSPECTIVES OF COMPLEX NANOCRYSTAL STRUCTURES"***

Abstract:

Current efforts and success of nanoscale science and technology are related to the fabrication of functional materials and devices in which the individual units and their spatial arrangement are engineered down to the nanometer level. One promising way of achieving this goal is by assembling of colloidal inorganic nanocrystals as the novel building blocks of matter. This trend has been stimulated by significant advancement in the wet-chemical syntheses of robust and easily processable nanocrystals in a wide range of sizes and shapes. The increase in the degree of structural complexity of solution-grown nanostructures appears to be the natural direction toward which nanoscience will increasingly orient. Recently, several groups have indeed devised innovative syntheses of nanocrystals through which they have been able to group inorganic materials with different properties in the same particle. These approaches are paving the way to the development of nanosized objects able to perform multiple technological tasks. This talk will review the recent advances in the synthesis of colloidal nanocrystals, with emphasis on the strategies developed at NNL for the fabrication of colloidal nano-heterostructures, as well as on their properties and the perspectives in this field.

**M.Tonelli**