PHYSICAL MATHEMATICS SEMINAR

CHIRAL SELF-ASSEMBLY

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ABSTRACT:

Once initiated, most self-assembly pathways proceed without bound, resulting in the formation of three dimensional assemblages whose size is only limited by the number of the available building blocks. Designing an assembly process in which the final assemblage is limited to two or one dimensions presents a significantly more difficult challenge. In this talk I will described a robust and widely applicable mechanism by which homogeneous chiral rod-like molecules assemble into a myriad of self-limited structures. The exact geometry of the final assemblage is determined by the anisotropy of the constituent rodlike molecules as well as their molecular chirality. Because of the simplicity and universality of hard core repulsive interactions which dominate the phase behavior, these results are directly applicable to many anisotropic particles.

TUESDAY, SEPTEMBER 28, 2010
2:30 PM
Building 2, Room 105

Refreshments at 3:30 PM in Building 2, Room 290

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