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Einladung zum  
**WIENER PHYSIKALISCHEN KOLLOQUIUM**

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**Statistical mechanics of supramolecular aggregates: from disorder to complexity**

**Jean-Pierre Hansen**

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Supramolecular aggregates, including polymer solutions, colloidal dispersions or lipid membranes, are examples of "soft matter", dominated by interfacial phenomena and entropy. A statistical understanding of their structure, phase behaviour and dynamics poses a formidable challenge to modelling and theory, due to the wide range of length and time scales involved, spanning several orders of magnitude between the molecular and mesoscopic levels. Some degree of "coarse-graining", based on a controlled reduction of microscopic degrees of freedom, is clearly required to examine large scale, supramolecular organization and collective processes. The lecture will illustrate this strategy with a few examples, including entropy-driven depletion interactions, semi-dilute polymer solutions, interactions between charged membranes, and the selectivity of ion channels through membranes.

Montag, **08. April 2002**, 17:30 Uhr  
(ab 17:00 Uhr Kaffee)

Großer Hörsaal des Instituts für Experimentalphysik der Universität Wien  
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