



# "Soft-Matter-Seminar"

Prof. Jean-Pierre Hansen  
University of Cambridge, UK

## Title

**Multi-blob representation of semi-dilute polymer solutions**

## Abstract

We introduce a systematic coarse-graining strategy for a statistical description of interacting polymers and block co-polymers in semi-dilute solutions. Each polymer is divided up into effective segments or blobs, such that the blob concentration is below their overlap concentration. This allows the use of low-density, transferable, effective interactions between bonded and non-bonded blobs. This effective “soft” blob representation allows polymer concentrations to be explored deep into the semi-dilute regime, where the correlation length is much shorter than the radius of gyration. The procedure preserves known scaling laws for polymer solutions and provides accurate estimates of amplitudes. The method is applied to the self-assembly of di-block copolymers in selective solvent.

**Donnerstag, den 3.4.2008**  
**11:00 Uhr**  
**Raum PH 227**

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