



## LECTURES:

Cantor 1: Dealing with stochastic noise in very dilute samples allows effective non-invasive pre-natal DNA diagnostics  
Cantor 2: Deuterium isotope effects may turn nutrients into highly effective drugs

Watts 1: 'Principles of solid state NMR for the study of biomolecules'  
Watts 2: 'Solid state NMR for structural studies of large integral membrane proteins'  
Watts 3: 'Receptor dynamics and structure in membranes resolved using solid state NMR'

Oostenbrink 1: 'Ensembles and sampling, leading to molecular dynamics simulations'  
Oostenbrink 2: 'Structure refinement using molecular dynamics simulations (NMR observables)'  
Oostenbrink 3: 'Calculation of free energies from molecular simulation'

Šiber 1: 'Mean field electrostatics explained through applications to viruses' 1  
Šiber 2: 'Mean field electrostatics explained through applications to viruses' 2  
Šiber 3: 'Mean field electrostatics explained through applications to viruses' 3

Ban 1: 'Structural basis of iterative fatty acid synthesis catalyzed by giant multienzyme complexes'  
Ban 2: 'Mechanistic insights into co-translational protein folding, processing and membrane targeting'  
Ban 3: 'Atomic structures of the eukaryotic ribosome and insights into the regulation of protein synthesis'

Ziherl 1: "Shape and structure of simple animal tissues: A mechanical perspective." 1  
Ziherl 2: "Shape and structure of simple animal tissues: A mechanical perspective." 2  
Ziherl 3: "Shape and structure of simple animal tissues: A mechanical perspective." 3

Sackmann 1: 'Thermoelasticity of the self organisation and biological function of composite cell membranes'  
Sackmann 2: 'Microviscoelasticity and viscoplasticity of semiflexible biomacromolecular networks and cells'  
Sackmann 3: 'Cell Dynamics. From intracellular transport to locomotion and immunological reactions'

Podgornik 1: DNA-DNA electrostatic interactions  
Podgornik 2: Long range order in DNA mesophases  
Podgornik 3: Ordering and condensation of DNA in bacteriophages

Wade 1: 'An introduction to the BD simulation method and recent applications to biomacromolecular systems'1  
Wade 2: 'An introduction to the BD simulation method and recent applications to biomacromolecular systems'2

Wade 3: 'An introduction to the BD simulation method and recent applications to biomacromolecular systems'3

Stark 1: 3D Structure determination by electron microscopy: Introduction into various techniques  
Stark 2: How to visualize structural dynamics by single particle cryo electron microscopy

Voth 1: 'Multiscale Theory and Simulation for Biomolecular Systems'  
Voth 2: 'The Challenge of Modeling Proton Transport in Proteins'

Grubmueller 1: 'Atomistic simulations of biological macromolecules I: Introduction and Method'  
Grubmueller 2: 'Atomistic simulations of biological macromolecules II: What can we learn?'

Perczel 1: 'Peptide and protein folding as seen by NMR (and ECD)'  
Perczel 2: 'In cell NMR of intrinsically dynamic proteins'  
Perczel 3: 'Quantitative ECD analysis of peptides and proteins: the CCA+ method'

Vaziri 1: "A Physicist Approach to Biology?" 1  
Vaziri 2: "A Physicist Approach to Biology" 2  
Vaziri 3: "A Physicist Approach to Biology" 3

Steinhoff 1: 'Site-directed spin labeling and electron paramagnetic resonance (EPR) spectroscopy: An introduction'  
Steinhoff 2: 'Inter- and intramolecular distance measurements using cw and pulse EPR spectroscopy'  
Steinhoff 3: 'Structure and Dynamics of membrane proteins studied by EPR spectroscopy'

Žagrović 1 'Conformational averaging in structural biology: challenges and computational solutions'1  
Žagrović 2: 'Conformational averaging in structural biology: challenges and computational solutions'2  
Žagrović 3: 'Conformational averaging in structural biology: challenges and computational solutions'3

Tossi 1: 'Membrane-active helical antimicrobial peptides'  
Tossi 2: "Methods of studying AMPs (antimicrobial peptides)"

Tolić 1: 'Microtubules and motor proteins I'  
Tolić 2: 'Microtubules and motor proteins II'

Smith 1: 'Introduction to Coarse graining - Physical background and applications '1  
Smith 2: 'Introduction to Coarse graining - Physical background and applications '2