

Papers for exam presentations COJOC – Experimental Biophysics 2023/2024

The papers should be read and studied entirely, the presentations should be focused only on the specific issues mentioned below.

**1. Aubin-Tam et al, Adhesion through single peptide aptamers, J. Phys. Chem. A, 3657-3664, (2011)
doi: 10.1021/jp1031493**

Focus on:

Single optical trap force spectroscopy to determine peptide aptamers rupture force

Extracting kinetic and energetic parameters by using the fitting model (Evans and Ritchie see paper

Strunz et al, Model Energy Landscapes and the Force-Induced Dissociation of Ligand-Receptor Bonds, Biophys.J 79 (2000) – model [https://doi.org/10.1016/S0006-3495\(00\)76375-2](https://doi.org/10.1016/S0006-3495(00)76375-2))

2. J. Stigler et al., The complex folding network of single calmodulin molecules, Science, 334, 512–516, (2011), doi: 10.1126/science.1207598

Free download link:

https://www.researchgate.net/publication/51752054_The_Complex_Folding_Network_of_Single_Calmodulin_Molecules

Focus on:

Double optical trap force spectroscopy at different pretensions to reveal the kinetic information about the folding-unfolding network

**3. Pertici et al., A myosin II nanomachine mimicking the striated muscle, Nat. Comm., 9:3532 (2018)
doi:10.1038/s41467-018-06073-9**

Focus on

Dual laser optical tweezers force spectroscopy force and position clamp configuration to investigate isometric and isotonic performance of the nanomachine