

Homework no. 7

## **Modern Techniques in Biophysics**

Topic: Transmission Electron Microscopy

Due date: April 10, 2015

### **Problem 1: TEM components**

Draw a simplified schematic diagram of a transmission electron microscope (TEM) and explain briefly how each component works.

### **Problem 2: TEM resolution**

Explain why a transmission electron microscope (TEM) has a much finer resolution than a light microscope.

### **Problem 3: electromagnetic lens imperfections**

The electron beams in TEM are controlled by electromagnetic lenses. What are the three common imperfections/aberrations in electromagnetic lenses that directly affect image formation in TEM?