

**The answers to the following questions should be included in your report**

### **Nanobiomedicin**

- 1) Why is it important that electrodes are flexible?
- 2) Can you name some cell types present in the brain?
- 3) What is legally required to be allowed to perform an animal experiment?
- 4) Give a few examples of conditions where BMI (brain machine interfaces) can alleviate/reduce the symptoms, e.g. through deep brain stimulation (DBS) or other types of brain machine implants.
- 5) Can you mention some type of equipment that you have seen during the visit?

### **Nanoelectronics**

- 1) Why is important to reduce the size of transistors?
- 2) Why are nanowires relevant for transistors?
- 3) Why are many looking for alternative material to replace silicon in transistors ?

### **Nanomaterials**

- 1) Name three different types of microscopes which uses electrons.
- 2) Which of them can see atoms?
- 3) How can you identify what kind of atoms you are looking at?

### **NanoPhysics**

- 1) Can you describe the different types of lithography techniques that you saw in the cleanroom?
- 2) Vad händer med elektronernas energi om temperaturen sänks från rumstemperatur till ca 4 K och varför är det viktigt för mätning av energinivåerna i en kvantprick?
- 3) Do nanowires have the potential to make photovoltaics a major, renewable source of energy in future? Motivate your answer briefly.