

NeCEN Facts & Figures

- NeCEN has two of the best cryo-transmission electron microscopes worldwide.

- The two microscopes are about 3.5 m tall and are made by FEI company in Eindhoven.

- The microscopes are optimized for biological research and are expected to lead to better understanding of diseases.

- The technology may shorten drug related R&D projects by two years.

- NeCEN can give access to approximately 45 research projects every year.

- NeCEN is located in Leiden, but offers open access to all research institutes and companies.

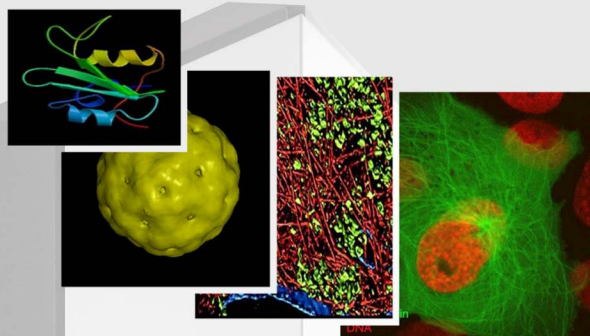
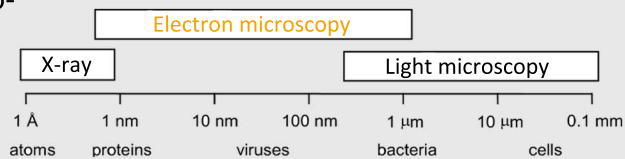
- In transmission electron microscopy, a beam of electrons goes through a sample. The interaction of the electrons with the sample results in an image.

- Electron microscopy shows more detail than light microscopy, because the wavelengths of electrons are shorter than light.

- Transmission electron microscopy uses a vacuum, therefore samples have to be dried or frozen.

- The samples for the NeCEN microscopes are frozen in liquid ethane, pre-cooled at -192°C by liquid nitrogen. Rapid freezing keeps the proteins in a near-native state.

- The samples that go into the microscope are very thin, rule of thumb is max. 500-700 nm.



- NeCEN secured two rounds of finance: 6.2 M euro by NWO and another 6 M euro by various financiers including the European Commission. These funds cover the first two microscopes.

- NeCEN was already included in the Roadmap for large infrastructures in 2008.

- Ten research institutes collaborated to establish the centre, as they realized it was the only way of making major steps forward in this field.

- NeCEN is supported by local and national governments and the EU.

- Ten companies have supported NeCEN with a letter of intent.

- NeCEN is housed by the Cell Observatory, an interdisciplinary facility for bioimaging of Universiteit Leiden.

- Because the microscopes are very sensitive to vibrations, they stand on concrete blocks that are separate from the rest of the building.



Investing in your future: NeCEN is part-financed by the European Regional Development Fund of the European Commission