



**Joachim Frank**  
**The Nobel Prize in Chemistry 2017**

**Prize motivation:** "For developing cryo-electron microscopy for the high-resolution structure determination of biomolecules in solution."

**Affiliation:** Columbia University, New York, NY, USA

**Life**

Joachim Frank was born on 12 September 1940 in Siegen, Germany. After studies at the universities in Freiburg and Munich, he received his doctor's degree at the Technical University of Munich in 1970. Frank has worked at several institutions in the U.S. and Europe, including the Wadsworth Center, New York State Department of Health, State University of New York at Albany, Howard Hughes Medical Institute and Columbia University, where he has remained since 2008. Joachim Frank is married and has two children.

**Work**

Fundamental processes of life are governed by a number of complicated molecules. The electron microscope, which uses electron beams instead of light, expands the possibilities to image these molecules. However, electron beams destroy biological structures. Between 1975 and 1986, Joachim Frank developed a method for analyzing and merging blurry two-dimensional images of the electron microscope into a sharp three-dimensional image. Electron microscope images provide knowledge that is important for the development of pharmaceuticals, among other things.

Ref: Joachim Frank – Facts. NobelPrize.org. Nobel Media AB 2020. Wed. 12 Aug 2020. <<https://www.nobelprize.org/prizes/chemistry/2017/frank/facts/>>