The Nobel Prize in Chemistry 2014
at Kungsholmens gymnasium/Stockholms Musikgymnasium

12 December 2014

ABBE’S DIFFRACTION LIMIT (0.2 μm)

Illustration: © Johan Jarnestad/The Royal Swedish Academy of Sciences

At the end of the 19th century, Ernst Abbe defined the limit for optical microscope resolution to roughly half the wavelength of light, about 0.2 micrometre. This meant that scientists could distinguish whole cells, as well as some parts of the cell called organelles. However, they would never be able to discern something as small as a normal-sized virus or single proteins. Eric Betzig, Stefan W. Hell and William E. Moerner are awarded the Nobel Prize in Chemistry 2014 for having taken optical microscopy into a new dimension using fluorescent molecules. Theoretically there is no longer any structure too small to be studied.

PROGRAMME

08.45 Lucia celebrations (Swedish tradition)
   The choir of Stockholms Musikgymnasium

09.05 Welcome address
   Ove Sköld, headmaster, Kungsholmens gymnasium/Stockholms Musikgymnasium

09.10 Introduction (in Swedish) to the Nobel Prize in Chemistry 2014
   Ann Fernholm, science writer/journalist

09.25 Nobel Laureate Stefan W. Hell

09.55 Nobel Laureate William E. Moerner

10.25 Short break

10.35 Nobel Laureate Eric Betzig

11.05 How to get a Nobel Prize – A short guide
   Sven Lidin, Chairman, The Nobel Committee for Chemistry

11.20 Why did I become a scientist, and why should you?
   Maria Tenje, The Young Academy of Sweden & Uppsala University

11.35 Moderated questions to the Nobel Laureates

12.05 Mingle with the Laureates and pupils, signing of the official Nobel posters

For more information regarding the Nobel Prizes, the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel and the Royal Swedish Academy of Sciences please visit http://kva.se