Presentation
«The Nobel Prize in Chemistry 2014:
fluorescence microscopy.»

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Nobel Prize in Chemistry was awarded to Eric Betzig, Stefan W. Hell and William E. Moerner for fluorescence microscopy studies. Scientists awarded for the solution of a problem, but by two different methods: Hell has developed the so-called STED-microscopy and Betzig and Moerner - single-molecule microscopy.

Method of fluorescence microscopy - painting objects with special non-toxic substances capable of light when irradiated with ultraviolet rays. This method gave better resolution than visual.

Eric Betzig

Born: 1960, Ann Arbor, USA

Affiliation at the time of the award: Janelia Research Campus, Howard Hughes Medical Institute, Ashburn,USA

Prize motivation: "for the development of super-resolved fluorescence microscopy"

Field: physical chemistry

Stefan W. Hell

Born: 1962, Arad, Romania

Affiliation at the time of the award:

Max Planck Institute for Biophysical Chemistry, German Cancer Research Center

Prize motivation: "for the development of super-resolved fluorescence microscopy

"**Field:** physical chemistry

William E. Moerner

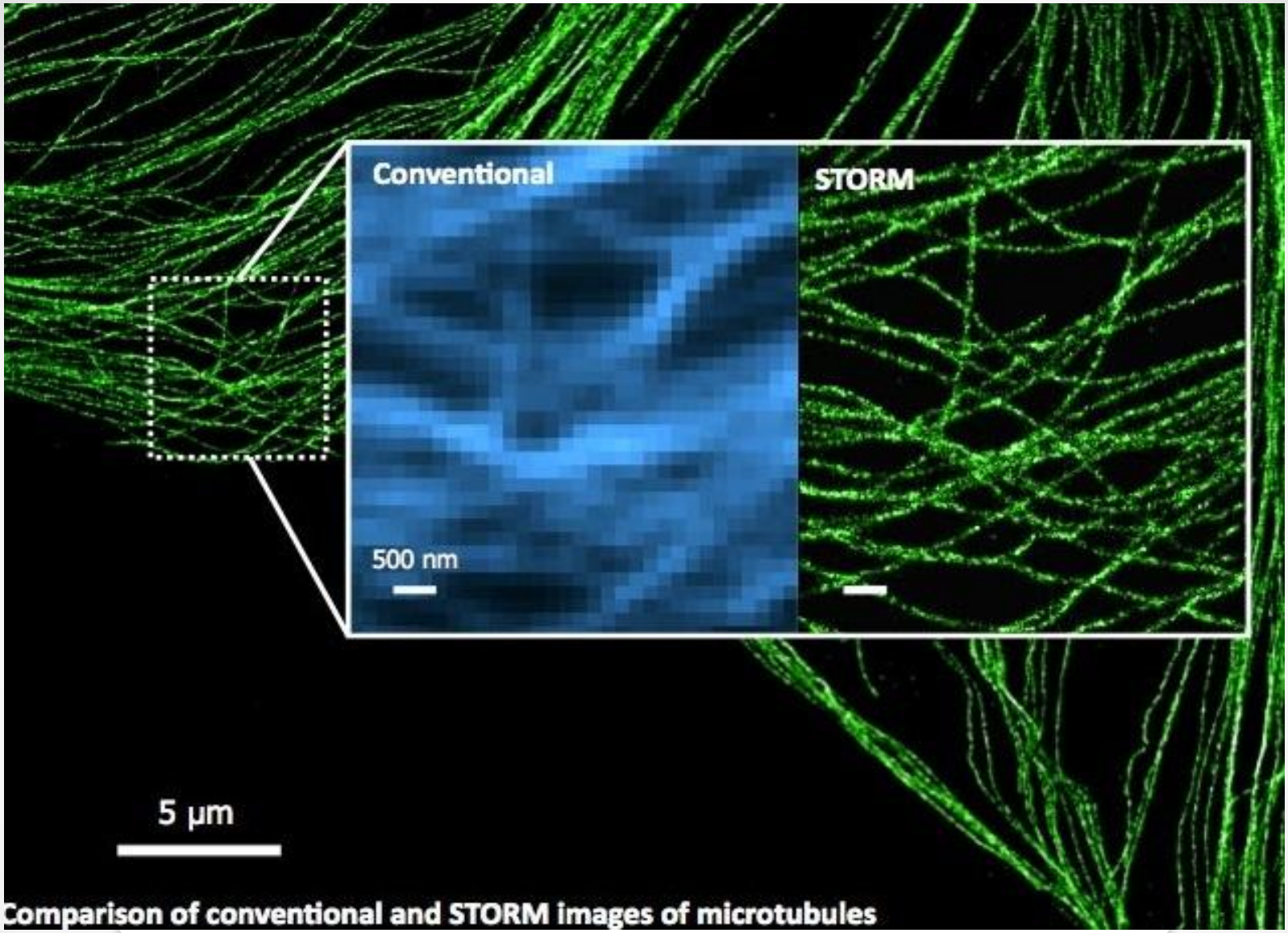
Born: 1953

Affiliation at the time of the award:

Stanford University, Stanford, CA, USA

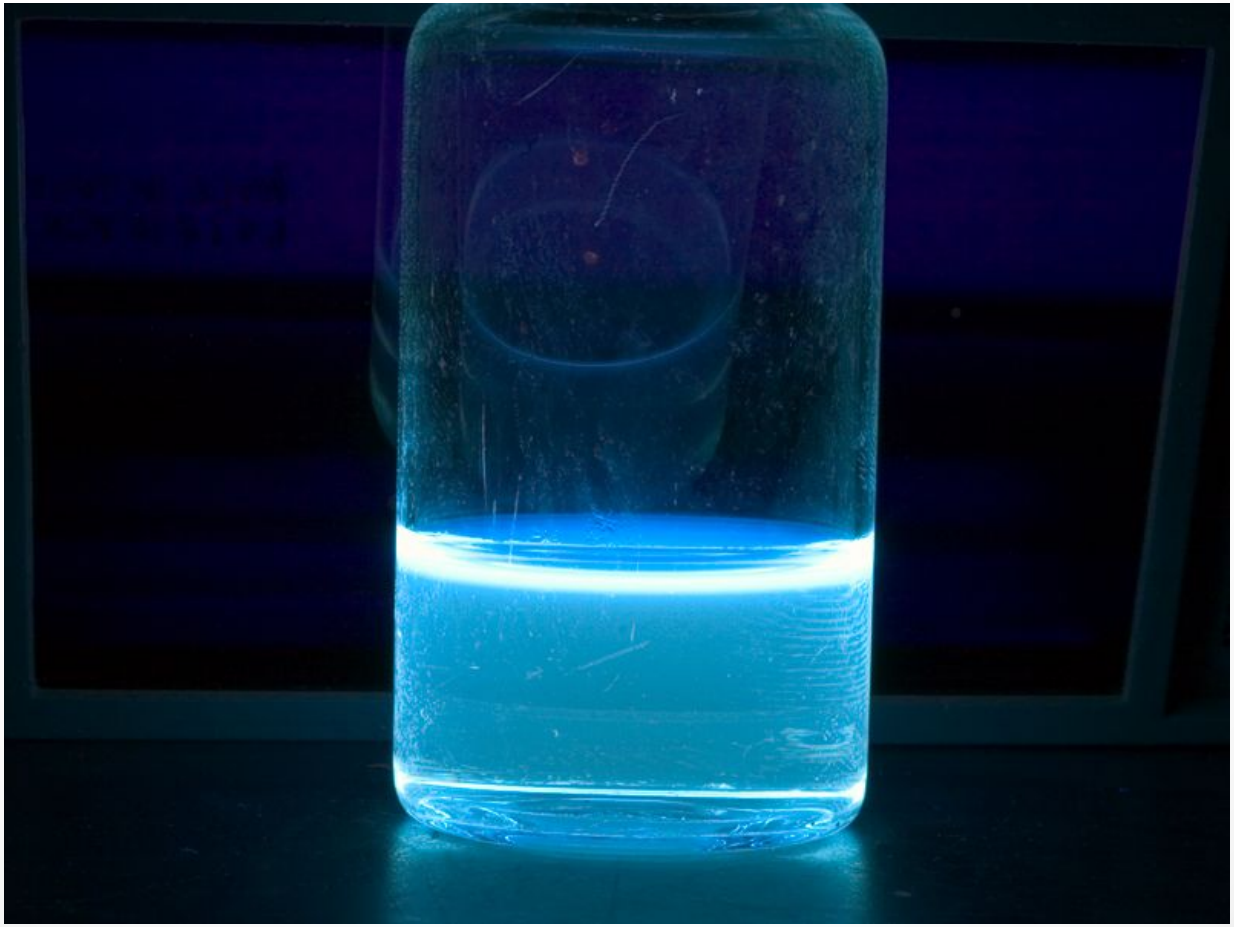
Prize motivation: "for the development of super-resolved fluorescence microscopy"

Field: physical chemistry



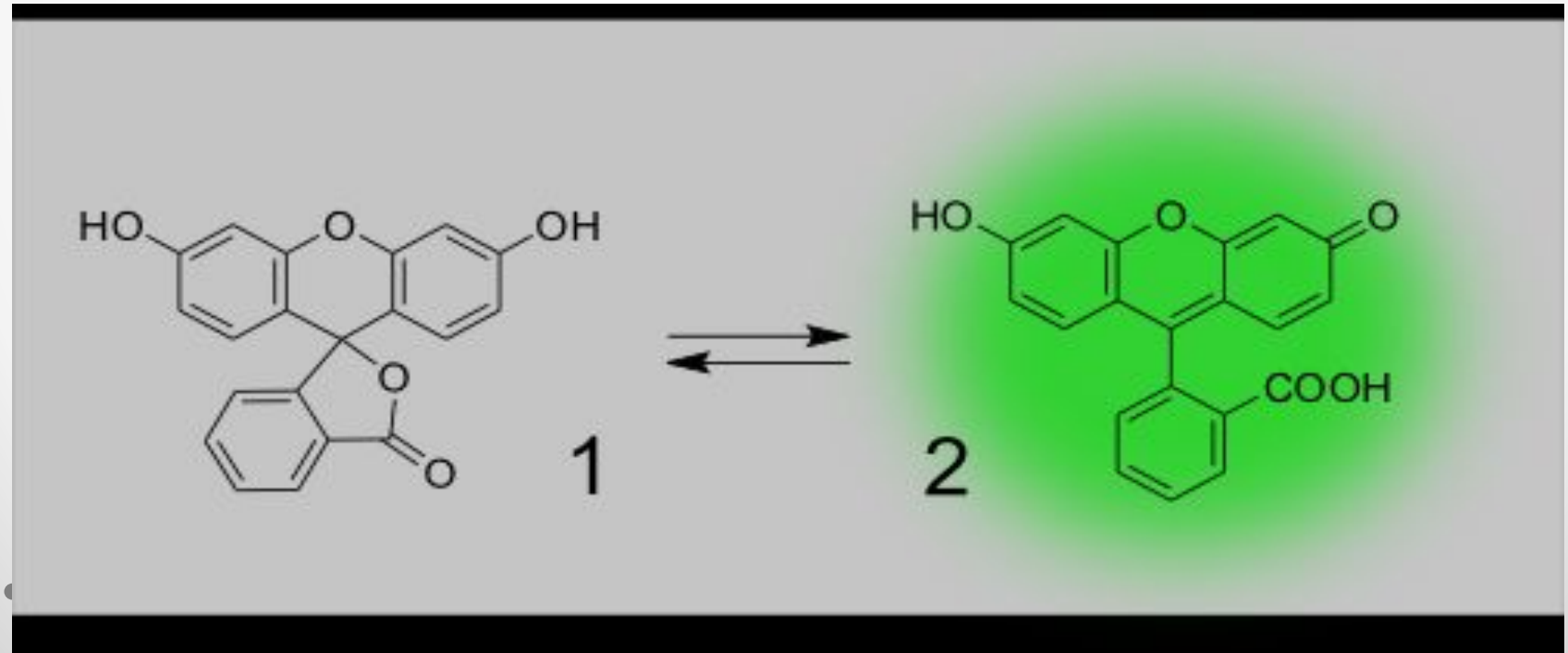
(Вид микротрубок в оптический микроскоп и с помощью флоуресцентной микроскопии.)

Scientists invented and synthesized various molecules that are "attached" to the protein and when exposed to ultraviolet radiation emit visible light.



quantities, so that scientists can trace which molecule is involved in various processes.

Active and inactive proteins have slightly different formulas that scientists can observe the activation of proteins.



Mouse after the action method of fluorescence microscopy

Scientists with fluorescence microscopy technique and technical innovations were able to overcome the inviolable laws of nature and use it in medicine and science.

In his presentation, we used material from these sources:

http://neochapay.livejournal.com/346075.html

http://gigamir.net/techno/pub1156577

http://www.nobelprize.org/

Thank you for your attention!!!