Name in English: Roger Yonchien Tsien
Name in Chinese: 錢永健
Name in Pinyin: Qián Yǒng Jiàn
Gender: Male
Birth Year: 1952
Birth Place: New York
Current location: San Diego, California

Profession (s): Scientist, Professor

Education: Bachelor of Science, Chemistry, Physics, Harvard University, 1972; Ph.D, Physiology, Cambridge University, 1977; Research Fellow at Gonville and Caius College, Cambridge University, 1977-1981

Awards: 1968, Winner, Westinghouse Science Talent Search (now the Intel STS); 1991, W. Alden Spencer Award in Neurobiology, Columbia University; 1995, Artois-Baillet-Latour Health Prize; 1995, Gairdner Foundation International Award; 1995, Basic Research Prize, American Heart Association; 1998, Award for Innovation in High Throughput Screening, Society for Biomolecular Screening; 2000, Pearse Prize, Royal Microscopical Society; 2002, ACS Award for Creative Invention, American Chemical Society; 2002, Christian B. Anfinsen Award, Protein Society; 2002, Heineken Prize for Biochemistry and Biophysics, Royal Netherlands Academy of Sciences; 2002, Max Delbrück Medal, Max Delbrück Centrum für Molekulare Medizi; 2004, Wolf Prize in Medicine, Wolf Foundation; 2008, Nobel Prize in Chemistry, Royal Swedish Academy of Sciences

Contribution (s): Dr. Roger Tsien shared the 2008 Nobel Price in Chemistry with Osamu Shimomura and Martin Chalfie "for the discovery and development of the green fluorescent protein, GFP." Their breakthrough discovery was originally isolated from the crystal jelly, a common form of jellyfish. GFP is what makes the jellyfish glow green in the dark. The same glowing property can be added to any cell protein enabling scientists to mark and track individual molecules through a live organism. Dr. Tsien's work was to research and mutate GFP to allow scientists to add a palette of different colors beyond green. With red, blue, and other colors scientists could then follow multiple proteins simultaneously and study the effects of protein modifications. Dr. Tsien made the protein even more useful by creating versions that change colors as conditions change. If one color-tagged protein interacts with another color-tagged protein, a different color appears. Although the public has mostly seen this technique described in humorous terms such as in making the brains of mice glow in the colors of the rainbow and green glowing pigs the serious research possibilities opened up by this technique are immense. It has enabled scientists to study the effects of manipulating DNA at the cellular level allowing the real-time study of Alzheimer's Disease, cancer, and other diseases as well as aiding research into stem cells. The future of medicine and other life sciences has been opened up by this work to the world.

Publications/Patents:
A New Generation of Ca2+ Indicators with Greatly Improved Fluorescence Properties (Grynkiewicz, G., Poenie, M., and Tsien, R. Y. (1985) J. Biol. Chem. 260, 3440–3450)
http://www.tsienlab.ucsd.edu/Publication.htm

External Links:

http://www.jbc.org/cgi/content/full/281/37/e29
http://www.latimes.com/news/science/la-sci-nobel9-2008oct09,0,2238575.story
http://nobelprize.org/nobel_prizes/chemistry/laureates/2008/
http://www.nytimes.com/2008/10/09/science/09nobel.html?_r=1&hp&oref=slogin
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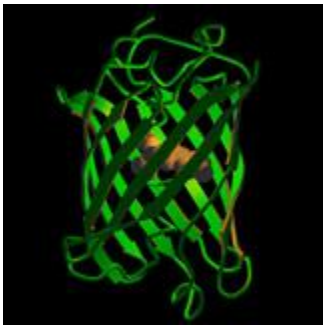
Green Fluorescent Protein, Courtesy of UC San Diego