

NOBEL LAUREATE SESSION

MY PATH IN SCIENCE BEFORE AND AFTER THE PRIZE

Südhof Thomas¹

¹University of Stanford, Palo Alto, CA, United States of America

thomasc.sudhof@gmail.com

In my presentation I will describe my career path, from working as postdoctoral fellow on cholesterol metabolism to studying how synapses manage to release neurotransmitters so precisely and rapidly. I will then describe the work that we have done more recently and that aims to elucidate the mechanisms of synapse assembly. Afterwards, I will discuss challenges that we are currently facing beyond trying to perform scientific studies, challenges that are inherent in the organization of science and amplified by the increased scrutiny of science by non-scientists who are not always valuing science as such. In this latter part of my talk I will in particular discuss how the commercial organization of the scientific publishing industry has led to distortions in science communications that have contributed to the public misperception of science and how science vigilantes who have no interest in scientific results but often pursue commercial interest have created an atmosphere of prosecution in science that has adversely affected in particular junior scientists. Finally, I will try to address true issues of science integrity that persist and that current mechanisms do not address because they are preoccupied with finding formal discrepancies, often of a minor nature, instead of examining the validity of a particular project.

Keywords: synaptic transmission, synapse assembly, cholesterol metabolism, scientific publishing, research integrity

(MY) LIFE WITH OXYGEN

Semenza Gregg¹

¹Johns Hopkins University School of Medicine, Baltimore, MD, United States of America

gsemenza@jhmi.edu

This is a story about a student inspired by Dr. Rose Nelson, his biology teacher at Sleepy Hollow High School; who learns as much as he can about genetics at Harvard College in between washing pots in the Dunster House kitchen; who tries several times to perform a successful research project at the University of Pennsylvania and obtains psychiatric advice from a classmate's father; who takes his lumps every third night as a pediatric resident at Duke Hospital; who starts an unsponsored research project at Johns Hopkins on this "other gene called *EPO*"; who stumbles upon a DNA binding protein he calls HIF-1; who spends the rest of his life trying to figure out what it does, how it does it, and how it might be targeted therapeutically; and, in his final hours, tries to convince a skeptical world that he might be on to something really important for cancer patients.

Keywords: teacher's influence, Harvard College, *EPO*, HIF-1