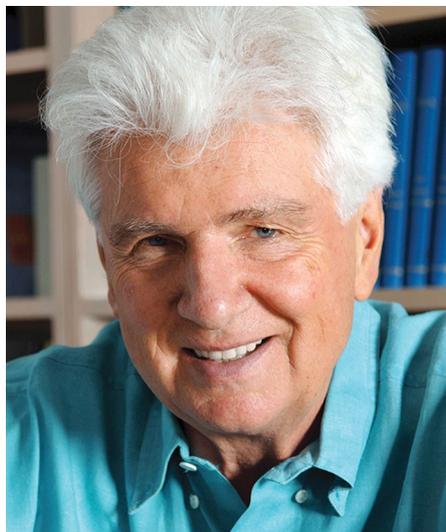


Günter Blobel (1936–2018)

Günter Blobel, recipient of the 1999 Nobel Prize in Physiology or Medicine, died on 18 February 2018 aged 81. He was among the greatest scientists of the twentieth century, whose seminal work on intracellular protein transport and localization revolutionized cell biology.

Günter was born in the small Silesian village Waltersdorf, then Germany now Poland. Fleeing from the advancing Red Army as a young boy, he passed through Dresden days before its bombing by Allied forces. He described being mesmerized by the baroque beauty of the city, instilling in him a life-long love of architecture in which he saw many similarities to the organization of the cell. Witnessing the destruction of historic Dresden, he vowed that if he were ever in a position to help rebuild the city, he would; a pledge he fulfilled years later by founding the Friends of Dresden charity towards the reconstruction of The Frauenkirche and the building of a new synagogue. He considered it one of his life's greatest pleasures to donate his Nobel Prize award money to this purpose in memory of his sister Ruth, who died during the war. An architectural model of the magnificent Frauenkirche decorated his laboratory for many years. After settling in Saxony, Günter was forced to relocate to West Germany to attend medical school. He graduated from the University of Tübingen in 1960, followed by residencies at various hospitals. In 1962, he moved to the United States to obtain his PhD in oncology at the University of Wisconsin with Van R. Potter. In 1967, he joined The Rockefeller University (then The Rockefeller Institute for Medical Research) for postdoctoral studies in George Palade's laboratory. In 1969, he became an assistant professor and was promoted to full professor in 1976 then appointed the John D. Rockefeller Jr. Professor in 1992. In 1986, he became a Howard Hughes Medical Institute Investigator. Altogether, Günter spent 51 years, his entire scientific career, at Rockefeller, an institution he deeply loved and regarded as the Valhalla of research.

The Palade laboratory had discovered cellular organelles and then employed pulse-chase experiments to study the secretory pathway, when Günter arrived. However, the molecular mechanisms remained elusive. In 1971, Günter and David D. Sabatini, postulated that proteins contain intrinsic signals that direct their sub-cellular targeting. In 1975, he and Bernhard Dobberstein refined the theory to the signal hypothesis. Initially controversial and heavily scrutinized, the hypothesis proved true and is now established as a hallmark of cell biology. In the Palade lab,



Credit: The Rockefeller University

Günter worked tirelessly on establishing a cell-free system of the initial steps of the secretory pathway. After two years, he succeeded — a monumental achievement allowing identification of all the molecular components and their functional dissection. Günter's laboratory subsequently validated every aspect of his signal hypothesis by combining classical cell biological approaches with molecular biology and biochemistry, revolutionizing cell biology in the process. This work was recognized by all major scientific awards, culminating in the 1999 Nobel Prize.

For decades, Günter focused on solving another fundamental problem in cell biology, the regulated bi-directional transport of macromolecules between the nucleus and cytoplasm through the nuclear pore, which is essential for the flow of genetic information in all eukaryotes. In a memorable conversation he and I had in 2003 it became clear that an atomic structure of the nuclear pore would be needed to reveal its function at the molecular level, a task easier said than done due to the pore's immense size and flexibility. True to his spirit that no vision is too large if there is passion to pursue it, Günter encouraged me to start a structural biology subgroup in his laboratory to tackle this problem and it remained the major focus of his laboratory over his last 15 years. Günter reinventing himself as a 'molecular architect' could not have been more fitting given his passion

for cellular and man-made structures alike. Günter never ceased his quest to understand the architecture of the cell, always prioritizing the most recent progress. I remember, the Rockefeller Dean's Office learning this firsthand when they asked him to deliver the student recruitment lecture one year. Rather than give what he considered an 'archival' talk which the packed auditorium would likely have been happy to hear, Günter gave only an introduction, after which he let a graduate student and myself present our new structures.

Günter loved broad conversations about science and the inner workings of the cell. He could often be seen strolling the Rockefeller garden in deep conversation with colleagues, accompanied by his three truffle hounds. On other occasions, he would invite lab members to have dinner at Barbetta, his wife Laura Maioglio's legendary Italian restaurant. I treasure our countless conversations during the ten years I spent in his laboratory. Günter's remarkable generosity and confidence in me undoubtedly shaped my own thinking and had a great impact on my career.

Günter possessed an unparalleled combination of brilliance, intuition, intellectual curiosity and creativity. He had an incredible capacity to conceptualize new ideas and synthesize them into testable hypotheses, and a tremendous ability to motivate people around him. He touched a countless number of students and postdocs with his passion and love for science, his generosity and endless energy. It was inspiring and just so much fun to work with him and learn. Günter will be warmly remembered as an iconic scientist, a force of nature, a giant among scientists, a role model, a dedicated mentor and an adored colleague. As a founding father of molecular cell biology, Günter's lasting legacy lies in the generations of trainees and their progenies who continue to expand on his work. He is survived by his wife Laura, five siblings and an immense scientific family. He will be sorely missed. □

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