

Professor Bert Sakmann

Bert Sakmann studied at the universities of Tübingen and Munich, graduating in 1967. Much of his professional life has been spent in various branches of the Max-Planck-Institut. A British Council Fellowship took him in 1971 to the Department of Biophysics of University College London to work with Bernard Katz, co-recipient in 1970 of the Nobel Prize in Medicine for discoveries concerning the humoral transmitters in the nerve terminals and the mechanism for their storage, release and inactivation. Bert Sakmann's admiration for his supervisor was to find tangible expression in 1993, through the establishment of the Bernard Katz Minerva Center for Cell Biophysics, a joint venture of the Max Planck Institute for Medical Research in Heidelberg where Bert Sakmann is Director, the Hebrew University of Jerusalem and the Technion-Israel Institute of Technology in Haifa. He also established the annual Bernard Katz prize lecture.

In 1974, he obtained his PhD from the University of Göttingen and with Erwin Neher, at the Max-Planck-Institut für Biophysikalische Chemie, began the work which was to revolutionise cellular biology and neuroscience and win them the 1991 Nobel Prize for Physiology and Medicine. The patch clamp technique involves attaching tiny pipettes directly to a cell, making possible very precise measurements of the electrical flow. This allows researchers to measure the electrical current going in and out of the ion channels of a cell.

His many significant discoveries have revolutionised our knowledge of the workings of cells, particularly nerve cells. Professor Sakmann's important discovery of the patch-clamp technique for measuring electrical activity and chemical flow across cell membranes resulted in a technique now used in laboratories throughout the world. As well as his numerous articles, Bert Sakmann has jointly edited "Single Channel Recording".

His subsequent work has led to the development of many important drugs used for diseases of the circulation and nervous system. This research identified the very sophisticated interplay of channels across the membranes of cells which regulate the flow of sodium, potassium and calcium ions in response to chemical signals acting on the cells during nerve stimulation. More recently he identified mechanisms that lead to experience dependent changes in the connections between nerve cells in the brain.

Bert Sakmann's work has attracted many prestigious awards, among them the Spencer and Gross-Horwitz prizes and Feldberg Prize of the Feldberg Foundation of London. In 1999 he was appointed an Eminent Scholar of the University of Melbourne.