

**Personal Information**

Full name	Dr. Erwin Neher	
Current position	Emeritus Research Director	
Organization	Max Planck Institute for Biophysical Chemistry, 37077 Goettingen	
Country	Germany	

**Short Biography**

Erwin Neher has been Director of the Membrane Biophysics Department at the Max Planck Institute for Biophysical Chemistry in Goettingen, Germany from 1983 to 2011. He received his Ph.D. in Physics from the Institute of Technology in Munich and did postdoctoral research in the Physiology Department at Yale University. In 1989 he spent a sabbatical at the California Institute of Technology. His research interests have focused on studies of ion channels and neuronal signaling. More recently he concentrated on mechanisms of hormone- as well as neurotransmitter-release and synaptic plasticity.

For his development of the patch clamp technique for recording of ion channel activity he received the 1991 Nobel Prize in Physiology or Medicine (together with Bert Sakmann). He is a member, or foreign member, of several national and international academies, among them the National Academy of Sciences (USA), and the Royal Society, London. In 2005 he was awarded the title 'Einstein Professor' by the Chinese Academy of Sciences.

Curriculum Vitae	
Education	<p>Erwin Neher took up his studies in physics in 1963 at the 'Technische Hochschule' in Munich. In 1966 he obtained a Fulbright Scholarship to continue his studies (biophysics) at the University of Wisconsin at Madison where he graduated as Master of Science (physics). After his return to Munich, he started his project on voltage-clamping snail neurons at the Max-Planck Institute for Psychiatry in the lab of Prof. H.D.Lux and obtained his PhD in 1970. In 1972, Erwin Neher went to the Max Planck Institute for biophysical chemistry in Göttingen where 'Young Investigator Laboratories' were established for him and Bert Sakmann to collaborate on the measurement of single channel currents.</p>
Professional Experience	<p>From 1983 to 2011 Erwin Neher was the Director of the Membrane Biophysics Department at the Max Planck Institute. He was also a Professor at the University of Göttingen and co-chair of the European Neuroscience Institute in Göttingen. Erwin Neher together with Bert Sakmann succeeded to conclusively prove the existence of ion channels and developed an ingenious technique to measure miniscule currents flowing through a single ion channel molecule. This patch-clamp technique, a project Erwin Neher completed as a postdoctoral associate in the laboratory of Charles F.Stevens at Yale, allowed to exactly measure the opening and closing of a single ion channel in the membrane and to explain the selectivity of a channel for one or the other type of ion.</p>
Professional Society	<p>Member of numerous scientific societies i.e.:</p> <ul style="list-style-type: none"> <li>• Physiol. Society (London)</li> <li>• Royal Society, London</li> <li>• Biophysical Society</li> <li>• Society for Neuroscience</li> <li>• National Academy of Sciences, USA</li> </ul>
Major Interest	<ul style="list-style-type: none"> <li>• Cellular processes involving changes in surface area as measured in membrane capacitance.</li> <li>• Mechanisms of secretion control in mammalian cells.</li> <li>• Simultaneous measurement of intracellular calcium concentration and ionic currents in single cells.</li> <li>• Mechanisms of short-term synaptic plasticity.</li> <li>• Cellular Ca<sup>++</sup> buffering and Ca<sup>++</sup> diffusion.</li> </ul>