Abstract

Voltage-gated calcium channels are arguably the most important class of ion channels in the body, since they control many functions, including muscle contraction and neurotransmitter release. In the lecture, Prof. Dolphin will describe her journey into the calcium channel field, and then talk about her work in neurons, and relate this to studies of neuropathic pain. In particular, Prof. Dolphin will concentrate on the importance of the calcium channel auxiliary α2δ subunits in neuropathic pain and desribe their role in neuronal calcium channel trafficking and function both in vitro and in vivo. She will dissect some of the key features of this protein that are essential to its function. She will also describe how the α2δ ligands gabapentin and pregabalin, which are used therapeutically in various neuropathic pain conditions, influence the trafficking of voltage-gated calcium channels.