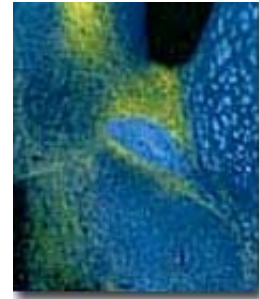




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Research Interests

Research in this laboratory focuses on understanding the molecules and reactions that constitute the exocytotic release of chemical messengers from neurons and neuroendocrine cells. Time-resolved membrane capacitance measurements under whole-cell voltage clamp are utilized to monitor exo- endocytotic activity. Molecular biological and biochemical approaches are used to construct, express and purify specific proteins important to the exocytotic pathway and to use them to elucidate interactions that occur between these proteins in vitro and within cells in the exocytotic pathway. Optical approaches (e.g. FRET) are used to obtain spatial and temporal information on specific protein-protein interactions in living cells related to exocytosis. Voltage-dependent calcium currents, gating and conduction properties of single ionic channels and regulation of evoked changes in intra-terminal ionic concentrations, especially as they relate to the exocytotic event are also studied.

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