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Title:
The Dual Oscillator Model for Islet Oscillations

Abstract:
Since the publication of the first mathematical model of the pancreatic islet much progress has made in understanding the biophysical mechanisms underlying the islet's bursting electrical activity. This activity underlies pulsatile insulin secretion, which is a hallmark of normal glucose homeostasis. In this presentation I discuss a model that combines electrical, calcium, and metabolic components to produce the types of oscillations observed in mouse islets under a range of conditions. The model was developed over many years of research in collaboration with Artie Sherman, Les Satin, and numerous students, postdocs, and research scientists.