

# Pyramidal Interneuron Next-Generation Neural Mass Model: Synaptic Properties and Stimulation Response Brain rhythms based inference for energy-efficient speech processing

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Human listeners seamlessly understand speech in real time, even under noisy conditions, diverse accents, or interruptions. This remarkable ability is achieved without prior exposure to these specific situations. Recent evidence supports that speech processing in the brain operates as an approximate Bayesian inference system that uses rhythmic activity to segment and temporally structure processing. Hierarchically organized rhythms, such as theta and delta oscillations, align the perception and processing of speech units, such as syllables and phrases, with the natural rhythm of speech.

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