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A model of shell structure and pattern in mollusks

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A model of shell structure and pattern in mollusks

Bard Ermentrout, Rahnuma Islam, Sabrina Streipert

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Abstract

A continuous space-discrete time neural model is proposed to generate diverse shell structures and pigmentation patterns on aquatic mollusks. We employed a system of nervous excitation and inhibition of secretory activity to reproduce some of the common shell patterns. The analysis of local stability and bifurcation predicts how the change in shell pattern occurs.