



# Keeping the Beat

The heart's function of pumping blood may seem fairly simple but the underlying mechanisms and electrical impulses that maintain a healthy rhythm are extremely complex. Many areas of mathematics, including differential equations, dynamical systems, and topology help model the electrical behavior of cardiac cells, the connections between those cells and the

heart's overall geometry. Researchers aim to gain a better understanding of the normal operation of the heart, as well as learn how to diagnose the onset of abnormalities and correct them.



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