**Title:** Harmonious Equations: An Exploration of Math & Music
**Speaker:** Distinguished Lecture: Dave Kung, St. Mary's College
**Date:** Monday, February 27th
**Time and Location:** 3:00-3:50pm in Building 24-Room 191(Music Recital Hall)

**Abstract:** Mathematics and music seem to come from different spheres (arts and sciences), yet they share an amazing array of commonalities. We will explore these connections by examining the musical experience from a mathematical perspective. The mathematical study of a single vibrating string unlocks a world of musical overtones and harmonics-and even explains why a clarinet plays so much lower than its similar-sized cousin the flute. Calculus, and the related field of differential equations, shows us how our ears hear differences between two instruments-what musicians call timbre-even when they play the same note at the same loudness. Finally, abstract algebra gives modern language to the structures beneath the surface of Bach's magnificent canons and fugues. Throughout the talk, mathematical concepts will come to life with musical examples played by the speaker, an amateur violinist.