1114-97-154   **Ami Radunskaya*** (`aer04747@pomona.edu`), Mathematics Department, Pomona College, Claremont, CA 91711. *Math classes with strings attached.*

Many mathematical constructs can be manifested as sounds. As teachers, we are familiar with visual representations of mathematical ideas. The visual palette is three or dimensional, or four if you include color; in some ways, the sonic palette is richer. Our ears can perceive along many axes, including pitch, loudness, timbre, harmonic complexity and time. I have found it effective to use sonic demonstrations in many of my undergraduate classes. In this talk, I will show how a 'cello can be used to demonstrate ideas from calculus, differential equations, and dynamical systems. For example, why is the "harmonic" series called by this name? Can we hear that the harmonic series diverges? More to the point of this talk: can we hear it with only four strings?

For other examples of "mathematical ideas with strings attached", please come to the talk. (Received August 23, 2015)