PHYSICS COLLOQUIUM SERIES

St. Olaf Physics Major Emma Dawson '18

Acoustic Propulsion: It's Not Rocket Science

If you have ever blown across the top of a soda bottle or seen a milk jug played in a bluegrass band, you will know they produce a characteristic "whoo." Both of these are examples of Helmoltz resonators, and that sound is their Helmholtz frequency. If you hold one of these Helmholtz resonators on its side above a speaker tuned to its Helmholtz frequency, the bottle will feel a force away from its opening. Moreover, if you put your hand at the opening of the bottle, you can feel a jet of air exiting the bottle. If you fill the bottle with smoke, you can even image this jet. You might suppose that this jet propels the bottle in the same way a rocket is propelled, but you would be wrong. For the past year, we have been studying this curious source of propulsion using high speed video. And the deeper you look, the more interesting it gets.

Wednesday, May 9 | 2:00 pm | RNS 210

Cookies and Apple Cider Served!