In the coming decade scientists will open the newest window on the universe by detecting for the first time the gravitational waves that were predicted a century before by Einstein. But instead of looking through this window, we will be listening to the universe through it because gravitational waves are space-time's counterpart to soundwaves, and our detectors are our microphones. In this multimedia presentation you will be able to listen to the "sounds" made by massive black holes, colliding neutron stars, exploding supernovas, and the Big Bang itself, and you will learn just how different our experience of the universe will be once we have mastered the technology of gravitational wave detection.