Complex harmonic pitch is not heard well through cochlear implants. This has consequences for cochlear implant users’ perception of the music in speech – i.e., the pitch inflections in our voices that convey information about our intended emotions, question/statement contrasts, and lexical tones. In this talk, I will present the results of our decade-long studies of pediatric and adult cochlear implant patients’ perception of pitch, prosody, and lexical tones. The results provide new insights into the roles played by neural plasticity, development, and aging in pediatric and adult cochlear implant users’ perceptions and productions of these musical elements within speech.