

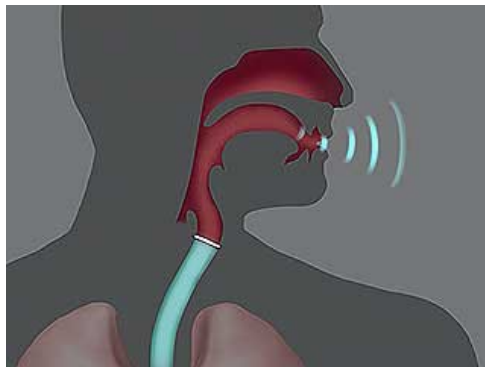
## *Graduate Math and Physics Seminar*

### Determination of the Shape of a Human Vocal Tract from Speech Sounds

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**Abstract:** The elementary units for human speech are called phonemes, and the utterance of each phoneme by a person is governed by a particular shape of that person's vocal tract. A mathematical description is presented for the shape of the vocal tract during the creation of each phoneme, which corresponds to a direct problem. Then, a corresponding inverse problem is analyzed; namely, the determination of the shape of the human vocal tract from the sound pressure measurements at the lips associated with an uttered phoneme. The talk is based on joint work with P. Sacks of Iowa State University.



*When:* Monday, February 25, 2019, 6:00 – 6:50 pm

*Where:* CSUCI, Sierra Hall 2411