



Gary Scavone is a professor of music technology in the Schulich School of Music (SSM) of McGill University, where he has taught and directed the Computational Acoustic Modeling Laboratory since 2003. He is currently serving as Chair of the Music Research Department of the SSM. Dr. Scavone received PhD (1997) and MSc (1995) degrees (Music and Electrical Engineering) from Stanford University and BSc and BA (1988) degrees (Electrical Engineering and Music) from Syracuse University. From 1997-2003, he was Technical Director and Research Associate at the Center for Computer Research in Music and Acoustics at Stanford University. Dr. Scavone is a Fellow of the Acoustical Society of America.

Dr. Scavone's music technology research includes acoustic modeling, analysis, and synthesis of musical systems and sound processing software development. He is also a saxophonist specializing in the performance of contemporary concert music.

Current Trends in Modeling of Music Instruments

Research in musical acoustics makes use of similar methodologies and principles as used in many other subfields of acoustics, though with different applications and goals. In this presentation, I will discuss and provide examples of several approaches to model and analyze musical instruments. Computational techniques to be covered will include the Transfer Matrix Method, Digital Waveguides, Finite Elements and the lattice Boltzmann method, with applications in sound synthesis, design optimization, and instrument assessment. I will also briefly discuss experimental methods that can be applied to confirm model accuracy and/or derive model components. Finally, I will highlight some areas for future research in the field.