

The violin: Perceptual studies and acoustical correlates. Claudia Fritz (Université Pierre et Marie Curie, UMR CNRS 7190, Institut Jean Le Rond d'Alembert, 4 place Jussieu, 75005 Paris, claudia.fritz@upmc.fr)

This talk discusses the results of experiments in which performances were replayed on different “virtual violins” in order to explore the relationships between acoustical characteristics of violins and perceived qualities. Specifically, it explores perceptual observations reported by Dönnwald (based on his measurements of over 700 instruments, J. Catgut. Acoust. Soc. 1991) by modifying the amplitude of the resonance modes over five octave bands (thereby covering the violin's entire register). When using a subset of the most distinctive verbal descriptors of violin timbre (Fritz et al., Conf. Interdisciplinary Musicology 2009) to study the relationship between human perception and these acoustical modifications, we ascertained results that partially conflict with Dönnwald's observations. In addition, the study investigated the manner by which one's perception of the violin's tone quality is affected by the magnitude of a player's vibrato as well as the damping of the violin's resonant modes. Our results do not support the conclusion that liveliness results from the combination of the use of vibrato and a “peaky” violin response. The talk concludes by discussing the limits of such psychophysical studies, suggesting future directions for psycholinguistic-based research in this domain.

Suggested Special Session: **“Invited”** The Contemporary Traditional Violin

Technical Area: Musical Acoustics

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