

Canadian University Music Society

Proposal for a round table

Challenging 300 years of Piano Teaching Practices with 21st Century Research

Title: Timing mechanisms in piano performance

Researchers: Ramesh Balasubramaniam, Human Kinetics and Neuroscience, University of Ottawa; Donald Russell, Mechanical and Aerospace Engineering, Carleton University; Gilles Comeau, Gilles Comeau, Music, Music, University of Ottawa.

Speaker: Donald Russell, Mechanical and Aerospace Engineering, Carleton University

Abstract: Musical performance involves the movement of various segments of the body that have to be controlled in a systematic and meaningful way. Studying how the human brain puts together these movements involves a good understanding of sensory processes, cognitive skills and motor control. This presentation will give an initial overview of how the brain handles sensory information and acts on it during musical performance. It will specifically focus on timing in piano performance and learning. Acts such as playing the piano involve the repetitive movement of certain effectors (wrist, finger, arm), with respect to external events such as a metronome, a musical score or even the movements of other musicians. From studying the timing aspect of such motor behaviour, we can understand 1) how the brain organizes sequential movements 2) how rhythmic structure might be represented in the brain and 3) how sequences are learned and encoded. This presentation will bring together evidence from neurophysiological and behavioural data in presenting a coherent view of the neural representation of timing in the acquisition and development of musical skills.