The presentation will be divided into two main sections. The first will present a summary of the role played by the trunk musculature in maintaining upright postural stability and inter-vertebral stability, and of the neuromuscular and biomechanical requirements of these functions. The second will address neuromuscular control in the trunk in relation to the functional impairments experienced by neurological and musculoskeletal patient populations. Specifically, the relationship between postural control of the trunk and overall functional independence will be discussed for patients post-stroke. The concept of inter-vertebral instability as a cause of low back pain will also be addressed, along with current evidence supporting this theory, its diagnosis and clinical management.

Dr. Richard Preuss has a B.Sc. in Physical Therapy from McGill University, an M.Sc. in Kinesiology/Biomechanics from the University of Waterloo, and a Ph.D. in Rehabilitation Science from McGill University. He completed two years of post-doctoral work in the Rehabilitation Engineering Laboratory of the Toronto Rehabilitation Institute before joining McGill’s School of Physical and Occupational Therapy in 2009. He is a regular member of CRIR-Constance-Lethbridge Rehabilitation Centre. Dr. Preuss’ research interests are in neuromuscular control and coordination, with a specific focus on the trunk musculature.