

The Stretch Reflex: No longer the Rodney Dangerfield of Motor Control!

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Stretch reflexes (rapid motor responses, RMRs) have traditionally been viewed as relatively simple and distinct from voluntary control. However, recent interest in optimal feedback control to interpret voluntary motor actions suggests a more intimate link between the two. My presentation will highlight our recent work demonstrating how RMRs, 50 to 100 ms after a mechanical perturbation, share many features observed for voluntary control including knowledge of limb mechanics, scaling to spatial targets, and avoidance of obstacles in the environment. The presentation will also highlight how primary motor cortex participates in this sophisticated use of feedback.