Topic Editor

Nature Neuroscience

February 22, 2017

Included, please find the Original Article entitled “The high-dimensional structure of feasible muscle activations reconciles alternative approaches to motor control.” In it, we explore the strict functional relationship between forces and neurology. Although we can measure which motor patterns are used by an animal, there exists a gap in how we understand *why* an animal chooses a pattern: while three theories of motor control predominate the field—Optimal Control, Synergistic Control, and Bayesian Integrative Control—there is no integrative theory clarifying how animals produce static forces with an arbitrary tendon-driven limb. Our Article introduces a full-dimensional visualization and quantification of *every way* a model finger can generate a given force, empowering impactful research to flourish at the seam of all three sectors. We feel this is a proud step for motor control which will inspire formerly disparate fields to weave together.

We sincerely hope you will consider sending this work for review by the most prominent experts in the field of neuromuscular function. Each of the following pioneered a distinctive angle of motor control that is integral to the field’s understanding.

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Please do not hesitate to contact me if you require additional information.

Very sincerely yours,

Francisco J. Valero-Cuevas

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*and on behalf of Brian Cohn, May Szedlák, Komei Fukuda, and Bernd Gärtner*