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Peter Strict, *Editor PNAS*

You effortlessly clicked or tapped to open this cover letter—yet how your brain controls the many muscles of even one finger **is not understood.**

Reverse-engineering the way vertebrate brains control the numerous muscles in our limbs has been the key stumbling block to understanding the function of our bodies in health and disease. By tackling such a longstanding problem, we are excited to present a new approach to the high-dimensionality of neuromuscular learning and control.

Included, please find our groundbreaking integrative work that confronts the high-dimensional control problem the brain faces and reconciles today’s three dominant theories of neuromuscular control—Optimization, Synergistic, and Probabilistic Control.

This Article also serves to put in perspective the merits and limitations of current theories across neuromechanics and evolutionary biology and, in so doing, it inspires new hypotheses and research directions. As such, this novel approach, which we call ’feasibility theory’, will inspire formerly disparate fields to interweave and advance, and sets a new path for integrating high-dimensional science with motor neuroscience.

Each of the following prominent scientists is a contemporary leader in these different approaches to neuromuscular control. They would, therefore, be excellent reviewers to provide you with a rigorous and fair evaluation of our work.

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

Very sincerely yours,



Francisco J. Valero-Cuevas, PhD

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