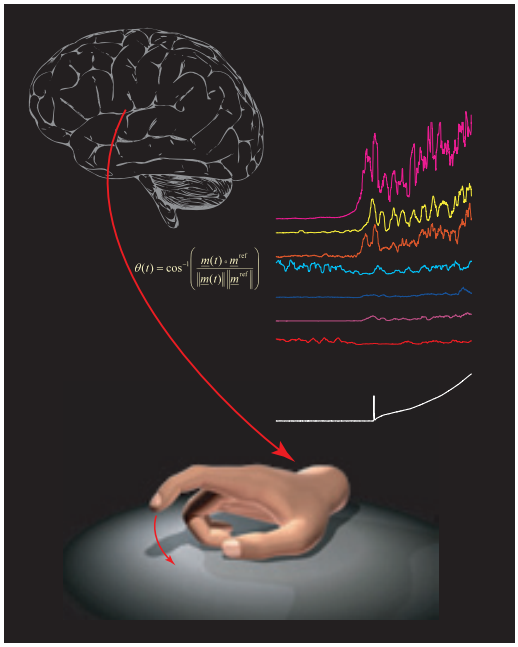
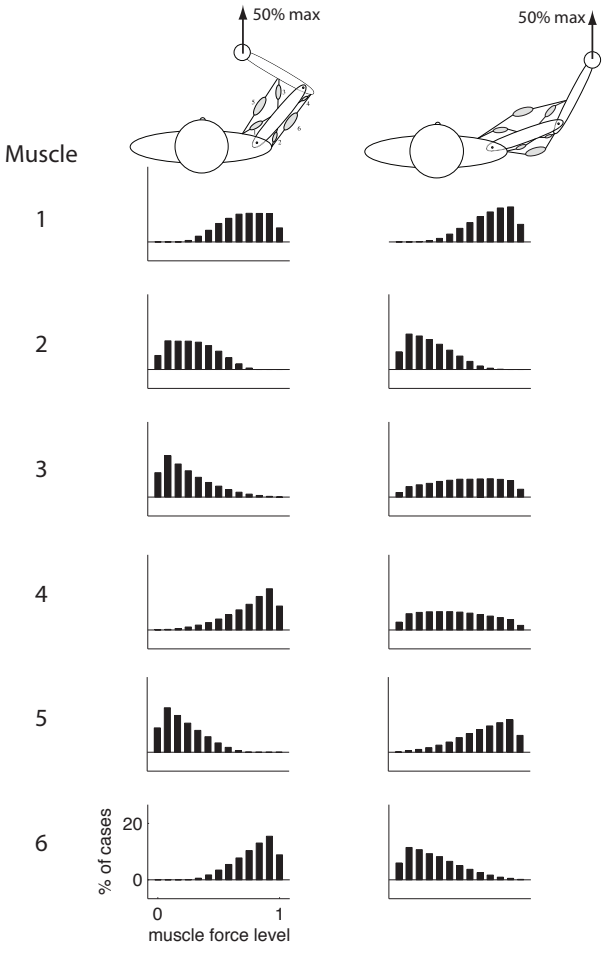
BME/BKN 504 : Neuromuscular Systems
Prof. Valero-Cuevas
Fall 2011.
Mondays and Wednesdays. ACB 238, 9:00 to 10:20 AM, 3 credits.



Purpose: To develop working knowledge of a common set of fundamentals from engineering and neuroscience to understand and simulate neuromuscular systems, and enable hypothesis testing.

Students: The course will introduce students with background and interest in the engineering or biological disciplines related to neuromuscular systems (Engineers, Neuroscientists, Roboticists, Biokinesiologists, Computer Scientists) to systems-level analysis tools to study and simulate neuromuscular biomechanics of motion and force production.

The course is aimed at beginning graduate, or advanced undergraduate, students with interdisciplinary interests.



Prerequisites: Introductory mechanics, linear algebra, and basic programming skills; or consent of instructor. No prior knowledge of neuroscience or computational modeling is required.

Topics covered: Fundamentals of mathematical and robotic analysis, muscle mechanics, neuromuscular control, computational modeling. The course combines lectures, experimental sessions, and computational exercises.

Website with course structure:
http://bbdl.usc.edu/BMEBKN504