How Spatial Visual Information Exacerbates Tremor:
From Brain to Motor Unit to Behavior

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Essential tremor (ET) is the most common age-related neurological movement disorder. Despite the prevalence, there are very few FDA approved therapies specific for ET that would reduce tremor amplitude. Although it is posited that oscillating networks in the brain drive spinal cord motor neurons abnormally in ET, we do not understand how tremor amplitude is modified across brain networks and at the motor neuron pool. This information is fundamental if we are to evaluate therapies in the future that may reduce tremor amplitude. We have recently discovered a novel paradigm in which visual information acutely exacerbates tremor in ET, and are now probing how brain and motor unit physiology function to drive tremor amplitude in humans.