

# NEUROSCIENCE TRAINEE LUNCH

VISITING SPEAKER



Thursday, April 6th, 2017  
12:00 Noon

SR415  
Kleysen Institute for Advanced Medicine

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The capacity for the nervous system to structurally and functionally adapt (neural plasticity) has been described for more than a century. Decades of neuroanatomical, neurophysiological and molecular studies have revealed that neural plasticity is an evolutionarily conserved, fundamental property of all nervous tissue. It is critical for maintaining normal brain function and yet can also manifest into various forms of brain dysfunction. While we still do not fully understand the complexity of the human nervous system, its response to disease/injury and capacity for recovery, treatments designed to harness endogenous neural plasticity to overcome neurological impairment continue to emerge. Specifically, the characterization of key behavioral and neurobiological signals that drive neural plasticity, in combination with advances in biomedical engineering, regenerative medicine and genomics, have created opportunities to develop novel therapeutic interventions. Evidence from both animal and clinical studies will be presented that demonstrate how modulating specific elements of motor rehabilitation can enhance functional outcome and cortical reorganization after stroke. Further, the viability of many adjuvant therapies for augmenting neural plasticity to enhance the impact of motor rehabilitation will be presented.

## ALL TRAINEES WELCOME