



Presented by the Department of Neurosurgery

"New Advances in Neural Interface Technology: Brain-Controlled Reanimation of Paralyzed Limbs"



Jonathan Miller, MD Professor, Department of Neurological Surgery, School of Medicine Case Western Reserve University Friday, October 25th, 2019, 7:50 am, Cohen Auditorium, NIHB E 02 - 230 South Frontage Road

Course Director/Host: Jason Gerrard, MD, PhD/Murat Gunel, MD This course will fulfill the licensure requirement set forth by the State of Connecticut

ACCREDITATION

The Yale School of Medicine is accredited by the Accreditation Council for Continuing Medical Education to sponsor continuing medical education for physicians.

NEEDS ASSESSMENT

Millions of people live with permanent neurological deficits and better treatments to restore function are necessary. Neural interface technology has many potential applications for muscle activation that are not widely used or appreciated. Brain-computer interface technology to control of neuroprosthetic devices is underdeveloped with no current FDA-approved clinical applications.

LEARNING OBJECTIVES

At the conclusion of this activity, participants will learn:

- 1. Describe current approaches to central and peripheral neural interfaces and how these might be used to restore functional independence after neurological injury.
- 2. List the major impediments to activities of daily living reported by people living with paralysis and how these might be circumvented using neurotechnology.
- 3. Outline the benefits of bi-directional sensorimotor braincomputer interface as potential control mechanism for neuroprosthetics such as functional electrical stimulation of peripheral nerves.

DESIGNATION STATEMENT

The Yale School of Medicine designates this educational activity for 1 AMA PRA Category 1 Credit(s)TM. Physicians should claim credit commensurate with the extent of their participation in the activity.

FACULTY DISCLOSURES

<u>Jonathan Miller, MD - none</u> Jason Gerrard, MD, PhD - none Murat Gunel, MD - none

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