2017 Neuroscience Summer Workshop for High School Science Teachers
July 10-14, 2017: 8:30 AM – 4:00 PM
Room 46-1015

“Neuroengineering and Artificial intelligence”

**July 10**

9:00 -10:15  "Introductions and workshop overview" Dr. Mandana Sassanfar, Department of Biology, Dept of Brain and Cognitive Sciences

10:15-11:45  "Brain dissection" Jennifer Cloutier and Kwadwo Owusu-Boaitey Harvard Medical School-MIT Division of Health Sciences & Technology, MIT Department of Biology

11:45-12:50  Lunch

1:00-2:15  “An Introduction to Building Brain-Machine Interfaces” Dr. Robert Ajemian, Research Scientist, McGovern Institute for Brain Research

2:15-3:30  “Redesigning amputation surgeries for advanced prosthetic control” Shriya Srinivasan, School of Engineering, Department of Health Science and Technology, Biomechatronics Media lab

3:30 -4:00  Field trip to Biomechatronics lab

**July 11**

8:00-9:00  Additional sheep brain dissection practice

9:00-10:15  “Introduction to fMRI and diffusion MRI”, Sarina Karmacharya Psychiatry Neuroimaging Laboratory, Brigham and Women Hospital, HMS

10:15-11:45  “functional MRI”, Steven Shannon, Athinoula A. Martinos Imaging Center, McGovern Institute for Brain Research

11:45-12:50  Lunch

1:00-2:15  “An introduction to Programming in Python” Joey Velez, CBMM Visiting scholar, University of Central Florida
2:30-4:00 “Anatomy and physiology of the human brain”: Dr. Matthew Frosch, Associate Professor of Pathology, Harvard Medical School, Director, Neuropathology Service, Massachusetts General Hospital

July 12
9:30-10:15 “AI in the movies” Joey Velez, CBMM Visiting scholar, University of Central Florida
10:30-12:00 “Early Childhood Cognition” Professor Laura Schutz, MIT Department of Brain and Cognitive Sciences
12:00-1:00 Lunch
1:05-2:45 “Brain Image analysis using simple coding” Sarina Karmachrya
3:00-4:00 “An Introduction to Artificial Intelligence” Joey Velez

July 13
9:00-10:15 "Muscle activity recording using backyard brain EMG and Human to Human interface kits"
10:15-11:45 “Vision lab and brain plasticity” Dr. Mary Lambo, Lecturer, MIT Department of Brain and Cognitive Sciences.
11:45-1:00 Lunch
1:00-3:30 “An Introduction to Auditory Neuroscience” Erica Shook, CBMM Visiting scholar, Davidson College

July 14
9:30-10:45 “New paradigms in Brain health and function” Dr. Srividya Radhakrishna, Whitehead Institute for Biomedical Research
10:45-11:45 Curriculum development/Field trip
11:45-12:50 Lunch
1:00-3:30 Curriculum development