



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*