

# NEUROENGINEERING: MOLECULES, MINDS & MACHINES

TIME	EVENT	LOCATION	
9:45–10:00 AM	Coffee and Pastries	Modell Atrium	
10:00–10:10 AM	Jeffrey S. Flier, Dean of the Faculty of Medicine Harvard Medical School Welcome	Armenise Amphitheater, Armenise Building, 210 Longwood Avenue, 1st Floor	
10:10–10:20 AM	Patrick Aebischer, President Ecole Polytechnique Fédérale de Lausanne Welcome		
	<i>Diagnostic Technologies for Neurological Disorders</i> Moderated by Dr. Jeffrey R. Holt		
10:20–10:45 AM	Demetri Psaltis, Ecole Polytechnique Fédérale de Lausanne <i>Imaging of the Cochlea</i>		
10:45–11:10 AM	Konstantina Stankovic, Massachusetts Eye and Ear Infirmary <i>Optical Imaging of the Inner Ear: Treating Deafness with Better Vision</i>		
11:10–11:35 AM	Patrick Purdon, Massachusetts General Hospital <i>Monitoring States of Anesthesia-Induced States of Unconsciousness using EEG</i>		
11:35–12:00 PM	Sydney S. Cash, Massachusetts General Hospital <i>Microscale Measurements of Neural Activity for Diagnosis and Treatment of Neurological Disorders</i>		
12:00–12:25 PM	Gary Yellen, Harvard Medical School <i>New Indicators for Probing a Cell's Metabolic State</i>		
12:25–1:30 PM	Lunch		Modell Atrium
	<b>Keynote Speaker (Introduction by Dr. David P. Corey)</b>		Armenise Amphitheater, Armenise Building, 210 Longwood Avenue, 1st Floor
1:30–2:30 PM	Bernardo L. Sabatini, Takeda Professor of Neurobiology Harvard Medical School <i>Neuroengineering Approaches to Manipulate and Monitor Brain Function</i>		
	<i>Wiring the Brain</i> Moderated by Dr. Clifford Woolf		
2:30–2:40 PM	Isabelle Dalle Fusine, Ecole Polytechnique Fédérale de Lausanne (student) <i>Dying to Know: Apoptotic Mechanisms in Synapse Formation</i>		
2:40–2:50 PM	Stella J. Lee, Harvard Medical School (student) <i>A Critical Period for Neuromuscular Junction Re-Establishment and Functional Motor Recovery After Peripheral Nerve Injury in the Mouse</i>		
2:50–3:15 PM	Break	Modell Atrium	
	<i>Understanding and Treating Genetic Disorders</i> Moderated by Dr. David P. Corey	Armenise Amphitheater, Armenise Building, 210 Longwood Avenue, 1st Floor	
3:15–3:40 PM	Jeffrey R. Holt, Boston Children's Hospital <i>Tmc Gene Therapy in Mouse Models of Human Deafness</i>		
3:40–4:05 PM	Wesley Wong, Harvard Medical School, Immune Disease Institute <i>Single-Molecule Mechanics and the Molecular Basis of Deafness</i>		
4:05–4:30 PM	Bernard Schneider, Ecole Polytechnique Fédérale de Lausanne <i>Gene Therapy for Motor Neuron Disorders: Targeting the SOD1 Pathology</i>		
4:30–4:55 PM	Casey Maguire, Massachusetts General Hospital <i>A Hybrid Extracellular Vesicle/Virus Vector System for Gene Therapy</i>		
4:55–5:45 PM	Reception		Modell Atrium
6:00–8:30 PM	Dinner for Speakers	Harvard Club of Boston, 374 Commonwealth Ave., Boston, MA	

# NEUROENGINEERING: MOLECULES, MINDS & MACHINES

TIME	EVENT	LOCATION
8:45–9:00 AM	Coffee and Pastries	Modell Atrium
9:00–9:05 AM	Jeffrey A. Hubbell, Director, Institute of Bioengineering Ecole Polytechnique Fédérale de Lausanne Welcome	Armenise Amphitheater, Armenise Building, 210 Longwood Avenue, 1 <sup>st</sup> Floor
	<i>Cell and Gene Therapy: Regeneration</i> Moderated by Dr. Jeffrey A. Hubbell	
9:05–9:30 AM	Lisa Goodrich, Harvard Medical School <i>Engineering Stem Cells and Neurons for the Inner Ear</i>	
9:30–9:55 AM	Samy Gobaa, Ecole Polytechnique Fédérale de Lausanne <i>Designing Artificial Niches for Inner Ear Hair Cells</i>	
9:55–10:20 AM	Zheng-Yi Chen, Massachusetts Eye and Ear Infirmary <i>Bioengineering Approach to Hair Cell Regeneration and Neuron Protection</i>	
10:20–10:45 AM	Jeffrey A. Hubbell, Ecole Polytechnique Fédérale de Lausanne <i>Engineering Delivery through Protein and Materials Design</i>	
10:45–11:00 AM	Break	
	<i>Brain-Machine Interfaces for Sensory and Motor Systems</i> Moderated by Dr. Demetri Psaltis	Armenise Amphitheater, Armenise Building, 210 Longwood Avenue, 1 <sup>st</sup> Floor
11:00–11:25 AM	Stéphanie Lacour, Ecole Polytechnique Fédérale de Lausanne <i>Polymer Coatings for Stimulating Neuroprosthetics</i>	
11:25–11:50 AM	Daniel J. Lee, Massachusetts Eye and Ear Infirmary <i>New Generation Auditory Brainstem Implant with Flexible Opto-electronic Arrays for Neurostimulation</i>	
11:50–12:15 PM	Clifford Woolf, Boston Children's Hospital <i>Modulating, Mimicking and Measuring Peripheral Regeneration</i>	
12:15–12:40 PM	Grégoire Courtine, Ecole Polytechnique Fédérale de Lausanne <i>Neuroprosthetic Technologies to Improve Motor Performance after Neurological Disorders</i>	
12:40–12:45 PM	David P. Corey, HMS Director, Bertarelli Program Closing Remarks	
12:45–12:50 PM	Ernesto Bertarelli, Fondation Bertarelli Closing Remarks	
12:50–1:45 PM	Reception	Modell Atrium
1:00–1:45 PM	Lunch for Speakers	Benjamin Waterhouse Room