



SHORT COURSE 2

Functional, Structural, and Molecular Imaging and Big Data Analysis

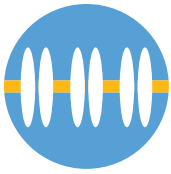
Organized by Ed Boyden, PhD and Kwanghun Chung, PhD

Friday, November 2, 2018

8 a.m.–6 p.m.

Location: San Diego Convention Center • Room: 6CF

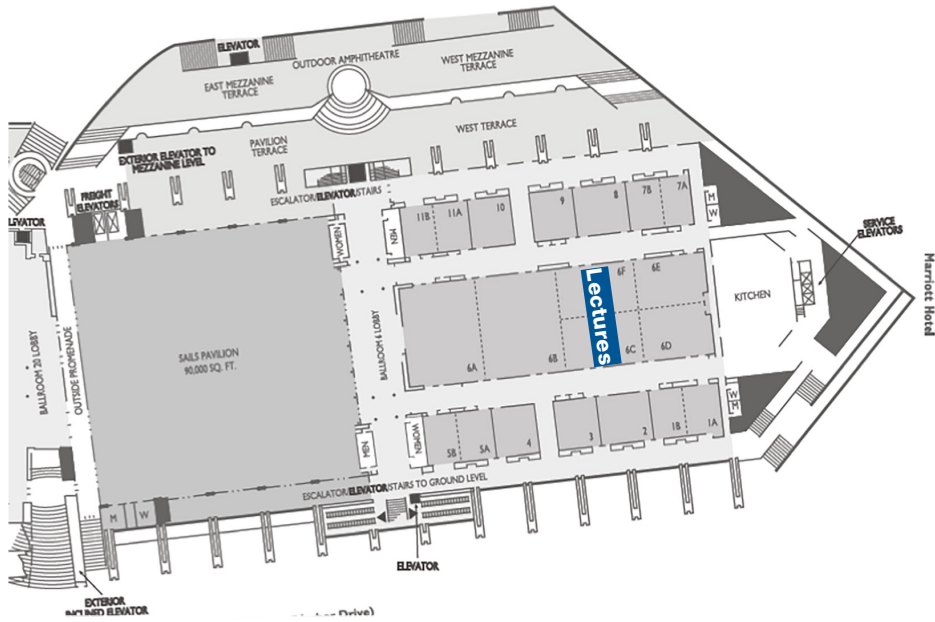
TIME	TOPIC	SPEAKER	
7:30–8 a.m.	CHECK-IN		
8–8:10 a.m.	Opening Remarks	Ed Boyden, PhD • Massachusetts Institute of Technology Kwanghun Chung, PhD • Massachusetts Institute of Technology	
8:10–8:50 a.m.	Advanced Optical Methods for Multi-Scale Optical Probing and Manipulation of Neural Circuits	Valentina Emiliani, PhD • Paris Descartes University	
8:50–9:30 a.m.	Optical Imaging of Neural Ensemble Dynamics in Behaving Animals	Mark Schnitzer, PhD • Stanford University	
9:30–10:10 a.m.	High-Resolution and High-Speed In Vivo Imaging of the Brain	Na Ji, PhD • University of California Berkeley	
10:10–10:30 a.m.	BREAK		
10:30–11:10 a.m.	High-Speed Volumetric Microscopy and Wide-Field Optical Mapping of Whole-Brain Activity	Elizabeth Hillman, PhD • Columbia University	
11:10–11:50 a.m.	Denosing, Compression, Demixing, and Deconvolution of Functional Imaging Data	Liam Paninski, PhD • Columbia University	
11:50 a.m.–12:30 p.m.	Connectome Coding	Joshua Vogelstein, PhD • Johns Hopkins University	
12:30–1:30 p.m.	LUNCH — ROOM 25		
1:30–2:10 p.m.	Holistic Molecular Imaging and Rapid Phenotyping of the Brain	Kwanghun Chung, PhD • Massachusetts Institute of Technology	
2:10–2:50 p.m.	Towards Integrative Optical Interrogation of the Brain	Ed Boyden, PhD • Massachusetts Institute of Technology	
2:50–3 p.m.	Summary and Introduction of Breakout Sessions	Ed Boyden, PhD and Kwanghun Chung, PhD	
3–3:15 p.m.	BREAK		
AFTERNOON BREAKOUT SESSIONS • PARTICIPANTS SELECT FIRST DISCUSSION GROUPS AT 3:15 P.M.			
TIME	BREAKOUT SESSIONS	SPEAKERS	ROOM
3:15–4:30 p.m.	Group 1: Collection and Analysis of Structural and Molecular Data	Kwanghun Chung, PhD, Joshua Vogelstein, PhD, and Ed Boyden, PhD	24B
	Group 2: Collection and Analysis of Neural and Signaling Dynamics	Elizabeth Hillman, PhD, Liam Paninski, PhD, Ed Boyden, PhD	24A
	Group 3: Microscopy Technology	Valentina Emiliani, PhD, Mark Schnitzer, PhD, and Na Ji, PhD	23A
4:30–4:45 p.m.	BREAK		
AFTERNOON BREAKOUT SESSIONS • PARTICIPANTS SELECT SECOND DISCUSSION GROUPS AT 4:45 P.M.			
4:45–6 p.m.	Group 1: Collection and Analysis of Structural and Molecular Data	Kwanghun Chung, PhD, and Joshua Vogelstein, PhD	24B
	Group 2: Collection and Analysis of Neural and Signaling Dynamics	Elizabeth Hillman, PhD, Liam Paninski, PhD, Ed Boyden, PhD	24A
	Group 3: Microscopy Technology	Valentina Emiliani, PhD, Mark Schnitzer, PhD, and Na Ji, PhD	23A



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