



**IEEE BRAIN INITIATIVE WORKSHOP ON  
ADVANCED NEUROTECHNOLOGIES**

**NOVEMBER 1-2, 2018**

**HILTON SAN DIEGO BAYFRONT (INDIGO 204)**

<b>THURSDAY, NOVEMBER 1, 2018</b>	
<b>OPENING AND WELCOME REMARKS</b> PAUL SAJDA, CO-CHAIR, IEEE BRAIN INITIATIVE METIN AKAY, CHAIR, ANTBI WORKSHOP	<b>1:30 - 1:45 PM</b>
<b>DAY 1 KEYNOTE</b> EDWARD F. CHANG, MD, UCSF <i>Advanced Neurotechnology for Network-based Closed Loop Neuromodulation</i>	<b>1:45 – 2:45 PM</b>
<b>Coffee Break</b>	<b>2:45 - 3:15 PM</b>
<b>SYMPOSIUM #1</b> <b>TRANSLATIONAL NEURAL ENGINEERING: BRINGING NEUROTECHNOLOGY INTO THE CLINICS</b> MODERATOR – PAUL SAJDA, PHD, COLUMBIA UNIV CHARLES LIU, MD, PHD, USC <i>Creating a Culture of Welcoming Transformative Technologies in the Clinical Setting - The USC Neurorestoration Center Experience</i> WILLIAM Z RYMER, MD, PHD, ABILITYLAB <i>Translational Neural Engineering: Bringing Neurotechnology into the Clinics</i> JOSÉ L. PONS, PHD, CAJAL INSTITUTE (CSIC) <i>The role of robotics and neuroprosthetics in neurorehabilitation: novel HMI technologies</i> ELISA E. KONOFAGOU, PHD, COLUMBIA UNIV <i>Ultrasound neuromodulation of the brain in vivo</i>	<b>3:15 – 4:45 PM</b>
<b>Poster Session</b> <b>Virtual Demonstration</b> <b>Welcome Reception</b>	<b>5:00 – 7:00 PM</b>

**Friday, November 2, 2018**

**SYMPOSIUM #2**

**INVASIVE APPROACHES FOR STUDYING BRAIN FUNCTION**

**MODERATOR – JACOB ROBINSON, PHD, RICE UNIV**

**TIM CONSTANDINOU, PHD, IMPERIAL COLLEGE LONDON**

*Towards a distributed mm-scale chronically-implantable neural interface*

**JENNIFER GELINAS, MD, PHD, COLUMBIA UNIV**

*NeuroGrid: Recording action potentials and large-scale network activity from the surface of the brain*

**MEHMET FATIH YANIK, PHD, ETH ZURICH**

*Engineering Brain Activity Patterns for Therapeutics of Disorders*

**LEIGH R HOCHBERG, MD, PHD, BROWN UNIV**

*BrainGate pilot clinical trial: progress and challenges toward restoring communication and mobility*

**9:00 – 10:30 AM**

**Coffee Break**

**10:30 – 11:00 AM**

**Day 2 KEYNOTE**

**MICHEL MAHARBIZ, PHD, UC BERKELEY**

*Recent Advances in the Neural Dust Platform: Can we target many motes, deep in the brain and through the skull?*

**11:00 AM – Noon**

**Lunch Break**

**Noon – 1:30 PM**

**SYMPOSIUM #3**

**NON-INVASIVE APPROACHES FOR STUDYING BRAIN FUNCTION**

**MODERATOR – TIM CONSTANDINOU, PHD, IMPERIAL COLLEGE LONDON**

**MINGZHOU DING, PHD, UNIV OF FLORIDA**

*Imaging Human Brain Function with Simultaneous EEG-fMRI*

**ANGEL PETERCHEV, PHD, DUKE UNIV**

*Transcranial Magnetic Stimulation with More Selective Targeting*

**PAUL SAJDA, PHD, COLUMBIA UNIV**

*Fusing Simultaneously Acquired EEG and fMRI to Infer Spatiotemporal Dynamics of Cognition in the Human Brain*

**DAVID BLODGETT, PHD, JOHNS HOPKINS UNIV APL**

*Coherent Imaging for Detection of Neurological Signatures*

**1:30 – 3:00 PM**

**Coffee Break**

**3:00 – 3:30 PM**

**SYMPOSIUM #4**

**CAREERS IN NEUROENGINEERING & NEUROENTREPRENEURSHIP**

**3:30 – 5:00 PM**

<p><b>MODERATOR – METIN AKAY, PHD, UNIV OF HOUSTON &amp; TED BERGER, PHD, Univ of Southern California</b></p> <p><b>CHRIS BERKA, CEO, ADVANCED BRAIN MONITORING</b>  <i>How will Neurotechnology Impact your Future?</i></p> <p><b>CHRIS EBELL, EX-EXECUTIVE DIRECTOR, HUMAN BRAIN PROJECT</b>  <i>Neuropreneurs and the Waves they Ride: A HPC-driven Future</i></p> <p><b>DAVID MCMULLEN, MD, NIH</b>  <i>Clinical, research, and government careers in neurotechnology</i></p> <p><b>STEPHANIE FERTIG, SBIR PROJECT MANAGER, NINDS</b>  <i>Small Businesses and Your Career: Partnership and Neuroentrepreneurship</i></p>	
<p><b>CLOSING REMARKS</b></p> <p><b>PAUL SAJDA, CHAIR, IEEE BRAIN INITIATIVE</b></p> <p><b>METIN AKAY, CHAIR, ANTBI WORKSHOP</b></p>	<p><b>5:00 – 5:15 PM</b></p>