FRIDAY, JUNE 25

10:00-11:00 am    PRE-SESSION

11:15 am-12:30 pm    PLENARY SESSION I
ENOUGING THE TARGET POPULATION
Moderator: Jennifer French
Lessons Learned in Patient Engagement from the Pharmaceutical Industry
Susan Schaeffer
Patient Engagement & the Science of Patient Input
Anita Bajaj, MD MPH
End-User Perspective of BCI Controlled Neuromuscular Electrical Stimulation
Ian Burkhart
BCI: Why I Did It, Why I Stayed, and Where We Are Now
Robert Chmielewski

1:00-2:30 pm    PLENARY SESSION II
CLINICAL NEUROMODULATION: THE BARRIERS BEYOND ENGINEERING
Moderator: Ellen L. Air, MD PhD
Found in Translation: Computational Models for Neuromodulation Dose Selection
Warren M. Grill, PhD
Brains are Like Faces: Challenges of Optimal Targeting in STN DBS for Parkinson’s Disease
Parag P. Patil, MD PhD
Recovery is Not Linear: Next-Gen Strategies to Optimize DBS for Depression
Helen S. Mayberg, MD
Challenges of Expanding Neuromodulation Technologies to Developing Economies
Paresh K. Doshi, MS MCh

2:45-4:00 pm    PLENARY SESSION III
ADVANCED INTRACRANIAL ELECTROPHYSIOLOGY FOR STUDYING NEUROPSYCHIATRIC DISORDERS
Moderator: Alik S. Widge, MD PhD
DBS with Intracranial Stereo-EEG: Early Experience and Network Characterization
Kelly R. Bijanki, PhD
Closed Loop Approaches to Psychiatric DBS: From Diagnoses to Cognitive Domains
Alik S. Widge, MD PhD
Developing Next-Generation Neurotechnology for Closed-Loop Neuromodulation
Dejan Markovic, PhD

4:30-6:30 pm    ABSTRACT SESSION
SATURDAY, JUNE 26

10:00-11:00 am  PRE-SESSION

11:15 am-12:30 pm  PLENARY SESSION IV

GLIAL-MEDIATED EFFECTS OF NEUROMODULATION
Moderator: Valentina Benfenati, PhD

- Glial Interface: Devices and Approaches to Achieve Neuromodulation of the “Other Brain”
  Valentina Benfenati, PhD

- Understanding the Role of Glial, Vascular, and Neuronal Subtype Activity in Neuromodulation
  Takashi Y. Kozai, PhD

- Steering the Brain Network Away from Seizure Using Closed-Loop Electrical Stimulation
  Sridevi V. Sarma, PhD

- Imaging Analyses and Modulation of Astroglial Actin Microdomains by Chemophysical Approaches
  Wolfgang Losert, PhD

1:15-2:45 pm  CONCURRENT SESSIONS

NEURAL INTERFACE ELECTRODE TECHNOLOGIES
Moderator: Matt R. Angle, PhD

- Robustness and Neuronal Yield of Carbon Fiber Electrodes
  Cynthia A. Chestek, PhD

- Extracting Behavioral Representations in Thousand Neuron Recordings
  Carsen Stringer, PhD

- Redesigning ECoG for Brain Machine Interface Applications
  Vikash Gilja, PhD

- Novel Material Approaches for Neural Electrodes
  Flavia Vitale, PhD

CLOSED-LOOP NEUROMODULATION: OPPORTUNITIES AND LIMITATIONS
Moderators: Lawrence Poree, MD PhD MPH; Juan G. Hincapie, PhD

- Engineering: PCLC in DBS
  Michelle Case, PhD

- Engineering PCLC in Cochlear Implants and SCS
  John L. Parker, PhD

- Clinical PCLC in DBS/SCS Implants
  Julie G. Pilitsis, MD PhD

- Clinical PCLC in SCS
  Lawrence Poree, MD PhD MPH
SATURDAY, JUNE 26

3:00-4:30 pm  CONCURRENT SESSIONS
SENSORIMOTOR NEUROPROSTHESES: ARE WE READY FOR WIDESPREAD CLINICAL APPLICATION?
Moderator: Hamid Charkhkar, PhD
Improving the Experience of Sensory Neuroprostheses Through Biomimetic Stimulation Encoders and At-Home Learning
Emily L. Graczyk, PhD
Making Implantable Neural Interfaces Work: Today and Tomorrow
Florian Solzbacher, PhD
Interference of Sensory Modalities in the Spinal Cord During Electrical Stimulation of the Sensory Afferents
Marco Capogrosso, PhD
Assessing the Effects of Sensory Restoration on Motor Performance with Sensorimotor Neuroprosthetics
Lee E. Fisher, PhD

BIOELECTRONIC MEDICINE: NEW FRONTIERS IN VAGUS NERVE STIMULATION AND ULTRASOUND THERAPY
Moderators: Stavros Zanos, MD PhD; Chris Puleo, PhD
Chronic Vagus Nerve Stimulation Accelerates Learning Through Cholinergic-Mediated Reinforcement Learning
TBD
Engineering Design of Autonomic Nerve Stimulation Using Computational Models
Nicole A. Pelot, PhD
Targeting Reflex Circuits in Immunity
Sangeeta S. Chavan, PhD
Ultrasound Stimulation of the Spleen for Treating Inflammatory Disorders
Hubert H. Lim, PhD

4:45-6:45 pm  ABSTRACT SESSION

*Faculty and presentations subject to change.