

Session 2:

Precision Medicine
Opportunities,
Challenges, and
Lessons Learned in
Multimodal
Biomarkers for CNS
Disorders

- **Discuss case studies of multimodal biomarker development** in central nervous system disorders to examine current challenges and opportunities.
- **What lessons learned in data collection, cohort development, measurement standards**, and biomarker replication can be applied across CNS therapeutic areas?
- **What success metrics** from Session 1 can help push other CNS disease areas closer to the finish line?
- How can we generate biomarkers that are applicable to a **wide range of racial/ethnic groups**?
- What have been some of the **successes and challenges** in developing **generalizable biomarkers**?
- **What are the ethical considerations** that need to be addressed when developing multimodal biomarkers?

Session 2:

5 Talks followed by a Panel Discussion

Carlos Larrauri :

- Share personal story – what it is like to live with a psychiatric diagnosis
- Importance of multimodal measures that are meaningful and impact treatment

Leanne Williams

- Review the definition of multimodal biomarkers and
- How to use other therapeutic areas' progress to inform psychiatry research
- How to better identify people, their specific mental illness and determine the best course of treatment/medication

Ellen Grant

- Discuss data interpretation, such as fMRI
- Address the definition of “normal”
- Creation of data bases with data sharing to move the field forward.

Adriana Di Martino

- Focus on Autism Spectrum Disorder and neurodevelopment disorder: heterogeneity, early onset, and life course
- Benefits and challenges with data sharing for studying biomarkers
- Need for longitudinal studies to track changes

JP Onnela

- Review social and behavioral phenotyping using data from smart phones and wearables
- Consider the challenges in data collection and long-term trajectories