In recent years there has been great growth in easy-application encephalography (EEG), with dramatic improvements in sensor and signal quality for enabling neuroimaging in truly real-world scenarios. Numerous types of electrodes have been developed, ranging from hard dry, to semi-gelatinous, to soft polymers, while new approaches to the headset form factor, instrumentation, and EEG signal processing are constantly improving.

A continual challenge remains in how to objectively assess the signal efficacy of these approaches. A lack of standardization in device validation, as well as inherent human variation makes it difficult to know how well a new EEG technology actually works. While many papers have published side-by-side comparisons of EEG components and systems, there is little consistency in the literature regarding the right methods to do so.

The goal of this workshop is to foster an open discussion among EEG stakeholders about this issue, and make headway towards community agreement on a path forward.

Key questions include:

- What are the best methods for assessing the signal quality associated with a new EEG technique?

- What are challenges associated with validation as an academic, government, or private lab? What is the ideal relationship between these entities?

- How much can be done with surrogate (phantom) devices vs requiring formal human subject testing?

- To what degree is the assessment driven by a specific application, vs having utility across a broad base?

Format:

The workshop centers around open discussion and feedback to the group. Lead-in presentations will be given by government institutions, academic labs, and private developers for generating perspective; however the majority of time will be in breakout groups and ad-hoc debriefing. The intended audience includes academic labs (both EEG developers and users), government lab PIs and program managers, and representatives from private industry.

For more details see: https://tinyurl.com/t64et7l