

[Beacon Biosignals](#) is a leader in sleep data analytics, and with the power of their Dreem headband, they are leaders in naturalistic sleep measurement at the brain activity level.

The Core Digital Measures of Sleep project and resources advocate for transparent measurement of sleep staging, the link between clinical biomarkers and patient-relevant aspects of sleep, and the ability to measure this from the comfort of the patient's own home. These are all level-ups for clinical research and practice of sleep and sleep disturbance, which is facilitated by the work we do at Beacon Biosignals.

— **Jacob Donoghue**

CEO and Founder, Beacon Biosignals

The opportunity



- Patients with various neurological conditions often present with significant sleep disturbance, which is either a primary pathology or key co-pathology/comorbidity.
- The symptoms manifest as changes in both the micro and macro architecture of sleep patterns and features.

The impact



- ✓ Measurement of brain activity biomarkers of REM and non-REM sleep and clinically meaningful aspects of patient and caregiver quality of life lead to large impacts for the millions of individuals and their families living with devastating neurological disorders.
- ✓ Assessing the quantitative metrics of sleep architecture provides clinicians with an arsenal of knowledge and information to accurately stage disease/symptom onset and progression, as well as identify interventional strategies that can also be tailored to individuals with precision medicine approaches. Further, Beacon's platform and analytics also support the efficient acceleration of drug development and innovation, helping optimize trial design and endpoint selection.
- ✓ Our device's ability to be used at home with real-time data collection and monitoring provides a unique advantage over cross-sectional and longitudinal measures of sleep characteristics.

The resources



- The [Core Digital Measures of Sleep](#) provide standard and transparent ontologies for patient-relevant sleep disturbance and robust quantification using advanced analytics with the most clinical meaningfulness.
- Combining this with Beacon's FDA-cleared device and SleepStageML algorithm bring real-world utility for patients, caregivers, clinicians and drug developers to acquire, quantify and characterize sleep features that are clinically relevant, reliable, reproducible and generalizable.