

Neurosom Announces Patent for Breakthrough in Personalized Neurophysiological Modeling

A novel method combines statistical modeling with personal EEG data for new "super-resolution" in origins of brain electrical activity.



EUGENE, OR, UNITED STATES, July 9, 2026 /EINPresswire.com/ -- [Neurosom®](https://www.EINPresswire.com/Neurosom)

is proud to announce the issuance of a new patent for an innovative method that revolutionizes EEG source analysis and transcranial electrical stimulation (TES) guidance. The patented technology, titled "Method for Bayesian Super-Resolution of Electroencephalographic Source Analysis and Transcranial Electrical Stimulation" (US Pat. No. 12,663,866), combines cutting-edge Bayesian statistical modeling with personalized EEG data and established brain atlas models to achieve unprecedented "super-resolution" in pinpointing the origins of brain electrical activity.

"This breakthrough enables a highly personalized and precise understanding of brain function," said Viral Sheth, CEO of Neurosom. "It empowers us to develop targeted, individualized treatment programs tailored to each person's unique brain activity."

Neurosom® specializes in precision brain health solutions, integrating high-density EEG, AI-driven software analytics, and continuous at-home monitoring through the [Sleep WISP®](#) wearable device. This comprehensive platform supports early diagnosis, lifestyle optimization, and neuromodulation therapies aimed at promoting healthier brain aging.

This invention allows prior knowledge of the human brain's architecture, such as the typical anatomy of cortical columns, and the connectivity among neurons shown by fiber tractography, to be used as Bayesian priors to "up scale" the resolution from 280-channel HDEEG/EIT measurement (such as 9600 cortical sources) to very high density solutions (cortical macrocolumns). This advanced visualization offers clinicians and researchers unparalleled insight into brain patterns and enables meaningful comparisons against normative data sets.

Neurosom® is a medical device company dedicated to reducing dementia risk and improving brain health by optimizing deep and REM sleep. Founded in 2021, the company developed the innovative, wearable Sleep WISP® device, which measures EEG sleep cycles at home and delivers

personalized, painless electrical stimulation using AI-powered, FDA-cleared software. This approach extends and enhances deep and REM sleep—the sleep stages that enable the brain to clear harmful plaques associated with neurodegenerative diseases.

“As healthcare increasingly embraces personalized medicine, this novel methodology positions Neurosom at the forefront of targeted brain care, sleep therapy, and cognitive health management,” Sheth added. “Greater accuracy in brain activity mapping will improve diagnostics and guide interventions to help prevent dementia and other age-related neurological disorders.”

This patent marks a significant milestone in Neurosom’s mission to transform brain health through precision technology and personalized care.

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