ABSTRACT: Using a novel set of methods to measure similarity between neural patterns across individuals and to influence the neural activity we estimate the level of engagement viewers have in content. We use our engagement estimates to test the ability to regulate the engagement. First, I will show results from a study [1] that tested the ability to predict engagement in content and to assess the variety of constructs that correlate with engagement. Following, I will describe the use of intracranial recording in humans [3] in the context of marketing [2], and show how we used it to feed-back neural signals from patients’ brains to train them to regulate their levels of engagement. Ultimately, the results from those studies show a use for neural tools in marketing to estimate and predict population-level behaviors.