

Invited talk

Exploring the High Dimensional Semantic Space in the Brain

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Abstract: Processing of words from semantic word classes activates networks of semantic representations in the human brain, which has been investigated by subtracting brain activity evoked from two semantic word categories. Here we show that arbitrary semantic representations in the brain can be investigated by utilizing high dimensional semantic spaces, generated from LSA. We correlate estimates of semantic distance with ERP potentials recording during word processing to study semantic representations in the brain. The results show that a large number of different semantic categories show specific topographical patterns across time. This method of using LSA to study semantic brain representation has several advantages compared to previous methods.