



- Organization: University of Rochester (Dept. of Brain & Cog.Sci.)
- Lead investigator: Rajeev Raizada (joining faculty at Rochester in 2013, currently at Cornell)
- Current team members: Richard Aslin, Robbie Jacobs, Brad Mahon

The challenge of representing **combinations** of concepts. Need understanding of:

- Structure of neural representations (Raizada)
- Neural organization of conceptual knowledge (Mahon)
- Representation of statistical relations between concepts (Aslin)
- Bayesian models of hierarchical structure (Jacobs)

Team has produced seminal papers in these fields

- Aslin: “Encoding multi-element scenes: statistical learning of visual feature hierarchies” (2005, with Fiser). “Statistical learning by 8-month-old infants” (Science, 1996, with Saffran & Newport)
- Jacobs: “Hierarchical mixtures of experts and the EM algorithm” (1994, with Michael Jordan)
- Mahon: “The organization of conceptual knowledge: the evidence from category-specific semantic deficits” (2003, with Caramazza)

Relevant work by PI (Raizada):

- “Representing the meanings of words: neural similarity matches semantic similarity” (2012, under review)



Specific capabilities our group is seeking:

- Interested especially in input from computational modelers of structure, e.g. in computational linguistics
- Interested in broadening neuroimaging modalities beyond fMRI, e.g. MEG, EEG



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Contact Information

- Rajeev Raizada
- Asst Prof of Brain & Cog. Sci. (starting 2013)
- Dept. of Brain & Cog.Sci, Univ. of Rochester
- rajeev.raizada@gmail.com
- <http://raizadalab.org>