

# Center for Cognitive Science

University at Buffalo, State University of New York

**Wednesday, November 5, 2003**

280 Park Hall  
North Campus  
2:00 pm –4:00 pm

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University of Colorado

## **"Probabilistic language processing by humans (mainly) and machines (briefly)"**

This talk summarizes a number of results from our lab on the role of probabilistic and statistical knowledge in comprehension, learning, and production of language, at many levels (phonological, syntactic, semantic, pragmatic) by humans (mainly) and machines (too). In comprehension, I'll talk about ambiguity at many levels (lexical, syntactic, semantic, and discourse) and how various probabilistic models can be used i) cognitively to account for psycholinguistic results on human ambiguity processing, and ii) engineeringly to build shallow semantic and pragmatic understanders for sentences. In production I'll present our experiments on lexical production which suggest that humans compute the probability of each word they say to help determine the surface form the words should take. In learning I'll talk about how some kinds of linguistic structure can be viewed as a 'learning bias' and combined with empirical, distributional learning to attack the problem of learning phonological and morphological structure. This talk describes joint work with all sorts of really smart people.

**Refreshments will be available**  
Everyone is welcome!

For information please call the Cognitive Science Office at (716) 645-3794 or check  
<http://www.cogsci.buffalo.edu/cogsci/html/2002fall.htm>

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