Future Directions for Computational Models
of Conversational Implicature
Session 1, Day 3
Instructions for Working Groups

The purpose of today's session is to discuss issues that you feel are important for shaping research on computational models of conversational implicature in the near future. The goal of dividing into smaller working groups is to encourage participation and discussion. (Each group should designate a representative who will provide a brief summary of the discussion to the entire group at the last symposium session.) Here are some possible questions and issues to get discussion started.

1. **Methodology**
   (a) evaluation of models: How should computational models of CI be evaluated? Consider for example:
      i. Validation and testing issues
      ii. Most models have focused on single classes of CI. What problems (e.g. rule conflicts) would arise in integrating the model with models of other classes?
      iii. Is the model scalable, e.g., will it continue to function when more knowledge is added?
      iv. What are the knowledge acquisition and knowledge representation issues that arise in implementing systems that recognize and generate implicatures?
      v. How much of a user model is needed and how would it be acquired?
      vi. What other components of an NLP system are presupposed, e.g., plan recognition? Are such components routine or still problematic?
   (b) use of corpora
      i. How can/should corpora be used?
      ii. What corpora are available for studying implicature?
      iii. Is there sufficient agreement on how to classify implicatures?
      iv. Is it necessary for corpora to describe the shared beliefs of the conversational participants?
   (c) bridging gaps between disciplines:
      i. What is needed from research in semantics, pragmatics, and prosody in order to build computational models?
      ii. What can computational models of implicature contribute to these fields? How can a computational model validate their theories?
   (d) Are there other methodological issues that need to be addressed?
2. **Theory:** What are the key problems to address next (and why)? E.g.,
   (a) How does conversational implicature relate to other discourse phenomena, e.g., coherence and discourse expectations? What is the role of linguistic (e.g., prosodic or pragmatic) constraints versus background knowledge?
   (b) Are there classes of discourse phenomena (e.g., ellipsis) which it would be advantageous to analyze as types of conversational implicature although they are not currently recognized as such in the computational literature?
   (c) What interesting classes of implicature have not yet been addressed?
   (d) How does the problem of generating implicatures differ from the problem of interpreting them? What's the role of a user model in generating implicature?
   (e) Are there other theoretical issues that need to be addressed?