

## *Call for Papers*

# **Compositional Connectionism in Cognitive Science (AAAI 2004 Fall Symposium Series)**

**October 22-24, 2004  
Washington, D.C. – U.S.A.**

This symposium will bring together connectionist and non-connectionist researchers to discuss and debate a topic of central concern in AI and cognitive science: the nature of compositionality. The open-ended productivity of the human capabilities aspired to by AI (e.g., perception, cognition, and language) is generally taken to be a consequence of compositionality; i.e., the ability to combine constituents recursively. The aim of this symposium is to expose connectionist researchers to the broadest possible range of conceptions of composition – including those conceptions that pose the greatest challenge for connectionism – while simultaneously alerting other AI and cognitive science researchers to the range of possibilities for connectionist implementation of composition. We therefore welcome and encourage submissions from both proponents and critics of connectionist representations, so long as the work described focuses on compositionality in an AI or in the modeling of cognition.

Specifically, the symposium will seek to address the following issues:

- (1) What do we mean by “compositional” in terms of the relationship between the constituents and the composite?
- (2) What do we mean by the process of “composition”?
- (3) Are composition and decomposition (of a given type) completely symmetric operations?
- (4) What constituents (that are relevant to human agency) can be composed?
- (5) What are the consequences of having multiple interacting compositional systems?
- (6) To what extent do "structure-in-time" connectionist models, like Elman's Simple Recurrent Networks, represent compositional structure?
- (7) Do different connectionist models implement different aspects of compositionality, and can they be used in conjunction to address different aspects of composition?

### Plenary Speakers

**Dr. Jeffrey Elman**, Dept. of Cognitive Science, University of California at San Diego

**Dr. Mark Steedman**, School of Informatics, University of Edinburgh

## Submissions

Standard talks at the symposium will be allocated 20 minutes for presentation, and papers will be limited to four pages. As the participants are expected to come from a wide range of disciplines, authors are asked to consider very carefully these constraints of brevity and variable background knowledge in planning their papers. Such constraints will be a primary criterion for evaluating submissions. Send submissions (in PDF, Postscript, or Microsoft Word format) to [levys@wlu.edu](mailto:levys@wlu.edu) (Simon D. Levy).

## Important Deadlines for Authors

May 3, 2004	Submission due to organizers
May 24, 2004	Notifications of acceptance sent by organizers
August 31, 2004	Accepted camera-ready copy due to AAAI

## Registration

The symposium will be limited to 40-60 participants. Those interested in attending should submit a paper (details above) or, if not intending to speak, submit a brief position paper or research abstract. *Both sorts of submission (full paper or position / abstract) are due May 3, 2004.* The symposium is intended for active participants, however there may be a limited number of places for interested individuals. These will be available on a first-come, first-served basis after the opening of general registration. General registration information will be available on the AAAI web site in July 2004.

More detailed registration information will be available later and a separate Call for Participation will be made.

## Organizing Committee

<b>Simon D. Levy</b>	Computer Science Dept., Washington & Lee University
<b>Ross Gayler</b>	La Trobe University / Baycorp Advantage Value Solutions
<b>Pentti Kanerva</b>	Redwood Neuroscience Institute
<b>Chris Eliasmith</b>	Depts. of Philosophy / Systems Design Engineering, U. Waterloo

## Further Information

For further information on the AAAI Symposia please see:

<http://www.aaai.org/Symposia/symposia.html>

<http://www.aaai.org/Symposia/Fall/2004/fss-04.html>