



Collaborative Graduate Specialization in Computational Science and Engineering

WEEKLY COLLOQUIUM

Tuesday, 31 October 2006
2:30-3:30 in Goodes 303

Speaker: DOUG MEWHORT
Professor of Psychology, Queen's University

Title: The representation of meaning in memory: How to build a lexicon

Abstract: How do we define the meaning of a word? The dictionary, and early psychological theory, explains a word's meaning by describing the object's characteristics: a bird has wings; a bird can fly, and so forth. Such definitions are confounded by counter examples (penguins are birds but do not fly) and other paradoxes. I shall trace the development of hyperspace models of meaning. In hyperspace accounts, a word's meaning is represented by its position in a hyperspace. Meaning is an aggregate pattern over all dimensions, i.e., no vector element has an interpretation by itself. I will describe the BEAGLE model (Bound Encoding of the Aggregate Language Environment) developed at Queen's on HPCVL and illustrate how it simulates standard psycho-linguist experiments.

About the speaker:

Doug Mewhort has been a member of the Department of Psychology at Queen's University since 1968. His current work centres on a computational models of Human Memory. He is a member of several professional societies including the Psychonomic Society, the Society for Mathematical Psychology, the Cognitive Science Society, C3.ca, and the APA and CPA. He has published about 80 scientific papers and a book (High Performance Computing Systems and Applications, with Andrew Pollard & Don Weaver).

He has served as editor of Psychological Research / Psychologische Forschung from 1988-2002, and has been Consulting Editor for the Journal of Experimental Psychology: Human Perception & Performance since 2001. He has supervised 16 Ph.D. Dissertations and 19 Masters theses, has served on the NSERC GSC, on the Governing Board of the CSBBCS, 1999-2001, and is currently President Elect of the CSBBS.

In the last 10 years, he has been one of the prime movers in the development of HPCVL, a supercomputer consortium of five Ontario Universities. He served on the Interim Board that established HPCVL (1997-2001), and currently serves as Chair of the Technical Advisory Committee, and the Board of HPCVL (2003- present). He is PI on grants supporting HPCVL from CFI, NSERC (MFA) and Ministry of Economic Development of Ontario