Organizers:

Language Information Sciences Research Centre,

The Halliday Centre for Intelligent Applications of Language Studies &

Department of Chinese, Translation and Linguistics

香港城市大學
City University of Hong Kong

The Halliday Centre for Intelligent Applications of Language Studies

Multilayered Extended Semantic Networks as a Knowledge Representation Paradigm and Interlingua for Meaning Representation

Date : 14 August 2006 (Monday)
Time : 2:30 – 4:00 pm
Venue : B7603 (Lift 3, 7/F, Blue Zone), Academic Building, CityU

Presented by Professor Hermann Helbig

Abstract:

The talk gives an overview of **Multilayered Extended Semantic Networks** (abbreviated MultiNet), which is one of the most comprehensively described knowledge representation paradigms used as a semantic interlingua in large-scale Natural Language Processing (NLP) applications and for linguistic investigations into the semantics and pragmatics of natural language.

As with other semantic networks, concepts are represented in MultiNet by nodes, and relations between concepts are represented as arcs. Every node is classified according to a predefined conceptual ontology forming a hierarchy of sorts, and the nodes are embedded in a multidimensional space of layer attributes and their values. MultiNet provides a set of about 150 standardized relations and functions which are described in a very concise way including an axiomatic apparatus, where the axioms are classified according to predefined types. The representational means of MultiNet claim to fulfill the criteria of universality, homogeneity, and cognitive adequacy. This talk will show how MultiNet can be used for the semantic representation of different semantic phenomena. MultiNet is associated with a set of tools including a semantic interpreter NatLink for automatically translating natural language expressions into MultiNet networks, a workbench LIA *(Lexicon in Action)* for the computer lexicographer, and a workbench MWR (*Multinet Wissens Repräsentation*, i.e. "MultiNet knowledge representation") for the knowledge engineer for managing and graphically manipulating semantic networks.

Bio-sketch:

Professor Hermann Helbig received his PhD in Computer Science in 1976. Since then, he has been researching in the fields of Computational Linguistics and Artificial Intelligence, and Knowledge Representation. He created the knowledge representation paradigm "**Multilayered Extended Semantic Networks**" in 1986. He has published three monographs *Künstliche Intelligenz und automatische Wissensverarbeitung* [Artificial Intelligence and Automatic Knowledge Processing] (1991/1996), *Die semantische Struktur natürlicher Sprache* [The Semantic Structure of Natural Language] (2001), and *Knowledge Representation and the Semantics of Natural Language* (2006).

All are welcome

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