

**McGILL UNIVERSITY
SCHOOL OF COMPUTER SCIENCE
SEMINAR**

SPEAKER : Dr. Renato De Mori, Director LIA CNRS
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TITLE : The European Project LUNA on Spoken Language Understanding

DATE : Wednesday, December 5, 2007

TIME : 3:00 p.m.

PLACE : McConnell Engineering Building, Room 320

ABSTRACT

The LUNA project addresses the problem of real-time understanding of spontaneous speech in telephone applications. In today's commercial applications based on speech recognition, the quality of the human-to-computer interaction is still far from being enjoyable and effective. To improve the usefulness and acceptability of automatic dialogue systems, a solution is to raise the level of intelligence of automatic systems up to Spoken Language Understanding (SLU).

A set of challenging scientific problems are addressed by SLU, namely language and semantic modeling for speech understanding; strategies for obtaining semantic interpretations from spoken messages; new semantic confidence indicators; new methods for knowledge updating using active learning; robustness; portability across domains and languages.

Three levels are considered for the SLU interpretation process: generation of semantic concepts for SLU, by means of translation from a word lattice to a conceptual constituents lattice; generation and validation of semantic structure hypotheses, through semantic composition, combination of confidence indicators and active learning; and context-sensitive semantic validation.

Research results will be validated on different application scenarios, targeted to dialogue-based telephone services of different complexity (e.g. call routing with utterance classification, dialogue systems with complex semantic domains).

A specific corpus of service-related data is collected and annotated. A toolkit for multilingual dialogue services will be developed, and selected modules integrated with existing voice platforms and used to develop and field test sample applications in four languages (French, German, Italian and Polish).

ALL ARE WELCOME