

Keynote presentation

## **Language Technology and Machine Translation in the European Funding Programmes: the Quest for a New Paradigm**

**Kimmo Rossi**

**Abstract:** In the long and sometimes painful history of machine translation, promising progress started to emerge when systems were made to learn to translate instead of being programmed to do so. The current statistical machine translation (SMT) paradigm can be seen as the first generation of self-learning translation systems. Recent advances in machine learning, cognitive systems and the neurobiology of language learning suggest exciting avenues for new research on self-learning systems that would progressively learn to understand language, and, ultimately, translate more accurately into other languages, overcoming the apparent shortcomings of the relatively crude SMT systems. While language emergence in cognitive systems is being studied in a number of promising research projects, the application of this paradigm to translation and other forms of language processing remains largely unexplored. Adaptive and dynamic knowledge representation, architectures and reasoning mechanisms could prove useful tools in tackling the hard problem of making machines learn language. This talk aims at putting these research questions into the context of European research funding system.

**Bio:** Kimmo Rossi received his M.Sc. from Helsinki University of Technology in 1989. He then worked in the localisation business, with a Finnish SME now part of Lionbridge. In 1994, he joined the European Commission, first as a revisor in the legal translation revision unit, then as terminologist at the Translation Service of the Commission. Since 2000, he has been working at DG Information Society and Media (INFSO), managing EU-funded research projects on language technology, cognitive systems and multimodal interfaces. This period included a two-year assignment at Eurostat, as head of the research sector at the "Research and Methodology" unit, ESTAT/B5. He is currently deputy head of the unit INFSO/E1 "Language technologies & Machine Translation" with a specific task of formulating emerging research and technology priorities into work programmes.