Word from the Guest Editors

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This special issue consists of the expanded and improved versions of selected papers from a workshop on Formal and Informal Information Exchange in Negotiations. The workshop took place on May 26-27, 2005, at the University of Ottawa. It was designed to bring together researchers who work on various aspects of interaction in negotiations, including electronic negotiation, and in other similar settings. In addition to electronic negotiation specialists, the workshop was attended by people who work in natural language processing (NLP) or machine learning (ML), applying tools from these disciplines in such areas as sentiment analysis. This gave researchers focused on negotiations a chance to learn about techniques and ideas which could be advantageously put to work on a variety of issues in negotiation analysis.

As a result, the workshop papers discussed various forms of textual and numerical information exchange in negotiations. Such information is processed using content analysis, statistical NLP, ML, and classical mathematical and statistical methods.

This issue aims to disseminate these ideas and perspectives further, to reach

the larger negotiation community. Its contents are organized similarly to the workshop.

The volume opens with the paper by Vetschera, based on his invited talk. He looks at the analysis of the relations between negotiation outcomes and preferences represented using multi-attribute utility functions. He considers different features of utility functions (attribute weights, monotonicity, and so on) to verify nine hypotheses using statistical techniques.

The next three papers consider the analysis of textual messages exchanged in the course of a negotiation. The similarities end here: each paper looks at negotiation texts from a different angle.

Sokolova *et al.* apply statistical NLP and ML methods to two sets of qualitatively different data: texts of electronic and face-to-face communication in negotiations. These text processing methods find patterns and generalizations in messages exchanged. The authors explore the richness of the vocabulary and the complexity of the language in apparently different negotiations. The study, however, discovers quite striking similarities. It also argues well that it is useful to import techniques and ideas from statistical NLP and ML into negotiation research.

Pesendorfer and Koeszegi apply content analysis methods to two sets of data from electronic negotiation simulations, with synchronous and with asynchronous communication. They analyze the content units in the messages exchanged from the point of view of feelings expressed and tactics used. This study reveals that synchronous and asynchronous communication leaves different traces of negotiation behaviour.

Morimoto *et al.* analyze conversational data from "naïve negotiations", in which Japanese people negotiate in a multi-party meeting. Three negotiation levels are identified: utterance, local consensus-building and final consensus-making level. Data from each level show different characteristics which help identify problems in reaching consensus. The conclusion stressed the need for a support system for multi-party discussions.

The last two papers focus on utility functions. Clímaco and Dias discuss

how the Variable Independent Parameters Analysis software and methodology can be used to evaluate a discrete set of alternatives according to a multi-attribute additive value function, as a Group Decision Support System. The particular situation which this paper explores arises when there is no cooperation within the group, but strong conflicting interests are present and the process must end in an agreement (which excludes the voting option).

Nastase presents an analysis of the topology of the concession curve for negotiators involved in electronic negotiations using the *Inspire* system. She describes concession curves by several features, such as the number of minima and maxima, the frequency of offers exchanged, and the slope of the curve at the start and end. The purpose of describing the curve with such features is to abstract away from concrete offer values, which can have different meanings to different users . She then applies ML methods to identify combinations of feature values that indicate a successful or unsuccessful negotiation outcome.