

PREFACE

Computing with words and perceptions, or CWP for short, is an evolving direction in intelligent computing in which the objects of computation are words, propositions and perceptions described in a natural language. A very simple example is computing a proportion of black balls in a box given the perceptions: (a) most of the balls are white, and (b) there are many more white balls than black balls. Another simple example drawn from everyday experiences is deciding on the clothes to wear based on perceptions of weather conditions on leaving the house.

The importance of CWP derives from the fact that most human decisions involve perception-based information. Humans have a remarkable capability to perform a wide variety of physical and mental tasks based on perceptions, without any measurements or manipulation of numerical information.

One of the principal purposes of CWP is to develop a body of concepts, tools and techniques that would make it possible to endow machines with the capability to operate on perception-based information. The aim of the special issue is to serve this challenging purpose.

Computing with words and perceptions draws upon many fields which in one way or another relate to reasoning and computation in the context of natural languages. Among such fields are fuzzy logic, granular computing, semantics of natural languages, computational linguistics and cognitive science.

The guest editors of the special issue should like to express their appreciation to the contributors for sharing their ideas and results with the readers of the *International Journal of Applied Mathematics and Computer Science*, and to the Editor-in-Chief, Professor Józef Korbicz, for his encouragement and support.

September 2002

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