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# IPMU '92 – Advanced Methods in Artificial Intelligence

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# Foreword

The papers in this volume are extended versions of presentations at the fourth International Conference on Information Processing and Management of Uncertainty in Knowledge-Based Systems (IPMU Conference), which was held in Palma de Mallorca, July 6-10, 1992.

The conference focused on issues related to the acquisition, representation, management, and transmission of information in knowledge-based and decision-making systems. Because of the large range of presentations, we have chosen to focus this book on the methodologies which are related to artificial intelligence. We present both theoretical and applied papers.

The first section of the book is devoted to non monotonic reasoning and the management of default knowledge. The second section deals with methods using non-classical logics to deal with imperfect knowledge and to represent its spatial and temporal components. The third section presents various methods for the acquisition of uncertain and imprecise knowledge. The fourth section is concerned with the use of qualitative, uncertain, temporal, and ambiguous pieces of information in knowledge-based systems, expert systems, and process controllers. The last section contains papers using artificial neural network methodologies.

The previous IPMU Conferences have results in three other volumes of the series Lecture Notes in Computer Science, *Uncertainty in Knowledge-Based Systems* (LNCS 286), *Uncertainty and Intelligent Systems* (LNCS 313), *Uncertainty in Knowledge Bases* (LNCS 521).

April 1993

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