

Preface

The ISIPTA meetings are one of the primary international forums to present and discuss new results on the theory and applications of imprecise probabilities. Imprecise probability has a wide scope, being a generic term for the many mathematical or statistical models that measure chance or uncertainty without sharp numerical probabilities. These models include belief functions, Choquet capacities, comparative probability orderings, convex sets of probability measures, fuzzy measures, interval-valued probabilities, possibility measures, plausibility measures, and upper and lower expectations or previsions. Imprecise probability models are needed in inference problems where the relevant information is scarce, vague or conflicting, and in decision problems where preferences may also be incomplete.

A total of 44 papers were presented at ISIPTA '03, covering a wide range of topics, including: new model based inference with imprecise probabilities; computations and foundations of inference with imprecise probabilities; applications of imprecise probabilities in engineering, finance, and medicine; connections with graph theory, belief functions, and fuzzy random variables; and the introduction of new principles and tools for decision theory.

To help promote the exchange of novel ideas, at ISIPTA '03 we continued the conference format begun at ISIPTA '01. Each of the 44 papers were presented both in a 20 minute plenary overview and as part of a poster session. Authors presenting at the plenary sessions were encouraged to use some of their 20 minutes to identify the context for their research, in addition to giving an overview of the research paper appearing in the proceedings. In this way the poster sessions served, again, as a forum for extended discussions of the papers.

This ISIPTA meeting included three invited contributions from Terrence L. Fine, Irving J. Good, and Patrick Suppes. Copies of their papers were distributed at the conference and are included in the electronic version of the proceedings (<http://www.sipta.org/~isipta03>).

Each paper appearing in these printed proceedings has been the subject of a careful refereeing process. We feel confident that the selection process has resulted in a symposium and proceedings with contributions displaying both very high quality and unusual originality.

We want to thank the contributors for their diligence in preparing their submissions, and for their patience with our selection process. The Program Committee members discharged their refereeing responsibilities effectively and constructively, with the result that all the papers have been improved by the reviewing process. We are grateful to the tutorial leaders (Jean-Marc Bernard: "Imprecise Dirichlet model for multinomial data," Gert de Cooman: "A gentle introduction to imprecise probability models and their behavioral interpretation," Fabio G. Cozman: "Graph-theoretical models for multivariate modeling with imprecise

probabilities,” Charles F. Manski: “Partial identification of probability distributions,” Sujoy Mukerji: “Imprecise probabilities and ambiguity aversion in economic modeling”), who have contributed their time and talents in such a generous fashion. As with ISIPTA '01, the Board is exceptionally thankful to Serafín Moral, who has overseen the electronic management of these papers, their submissions and reviews, and who has tirelessly given his time to fixing the inevitable breakdowns that happen in a complicated web-based system. These proceedings simply would not be possible without his expertise.

Jean-Marc Bernard
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