8th International Conference on

Soft methods
in
probability and statistics

Rome - Italy
September 12-14, 2016

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Scope: Probability and statistics were the only well-founded theories of uncertainty for a long time. However, during last fifty years, in such areas like decision theory, economics, artificial intelligence or information processing, numerous approaches extending or orthogonal to the existing theory of probability and mathematical statistics have been successfully developed. These new approaches have appeared, either on their own like fuzzy set theory, possibility theory, rough sets, or having their origin in probability theory itself, like imprecise probability, belief functions, fuzzy random variables.

The common feature of all those attempts is to allow for a more flexible modelling of imprecision, uncertainty, vagueness and ignorance. The proposed new methods are softer than the traditional theories and techniques because being less rigid they more easily adapt to the actual nature of information.

Wide range of applications still reveals the need for soft extensions of classical probabilistic and statistics tools. For example, in data analysis and data mining it is becoming increasingly clear that integrating fuzzy sets and probability can lead to more robust and interpretable models which better capture all kinds of the information contained in data. Also, in science and engineering the need to analyze and model the true uncertainty associated with complex systems requires a more sophisticated representation of ignorance than that provided by uninformative Bayesian priors.

Several years ago, the need was felt to establish a recurrent forum for exchanging of ideas and discussing new trends that enlarge the statistical and uncertainty modeling traditions, towards a flexible and more specific handling of incomplete or subjective information. This idea resulted in a series of biannual international conferences on **Soft Methods in Probability and Statistics** (SMPS), organized for the first time in Warsaw in 2002. Subsequent events in this series took place in Oviedo (2004), Bristol (2006), Toulouse (2008), Oviedo/Mieres (2010), Konstanz (2012) and Warsaw (2014).

Proceedings: The final version of the papers accepted for presentation after the reviewing process will be published in an edited volume of the series by Springer-Verlag.Advances in Intelligent Systems and Computing

After the Conference there will be a SPECIAL ISSUE of International Journal of Approximate Reasoning dedicated to SMPS'16. For this, all the selected papers will have to pass a regular reviewing process.

Topics

- Analysis of Censored Data
- Analysis of Fuzzy Data
- Random Sets
- Fuzzy Random Variables
- Fuzzy Regression Methods
- Triangular Norms and Copulas
- Imprecise Probabilities
- Dempster-Shafer Theory

- Robust Methods
- Clustering and Classification
- Graphical Models
- Machine Learning
- Heuristic Optimization
- Soft Computing and Statistics
- Statistical Software for Imprecise
- Applications in Biology, Economics etc.

Important Dates

Proposal for organized sessions	December 15,	2015
Acceptance for organized sessions	January 10,	2016
Paper submission deadline	February 15,	2016
Notification of paper acceptance	April 10,	2016
Revised paper due	April 30,	2016
Early registration deadline	May 20,	2016

More Information http://www.sbai.uniroma1.it/smps2016