Available online at www.sciencedirect.com

ScienceDirect

Fuzzy Sets and Systems 343 (2018) 1–2

FUZZY sets and systems

www.elsevier.com/locate/fss

Editorial

SI on Fuzzy Logic and its Applications (LFA 2015)

The 24th French-speaking conference on Fuzzy Logic and its Applications (LFA, Logique Floue et ses Applications) was held in Poitiers, France, on 5 and 6 November 2015. This is an annual conference launched in 1992 with the goal to gather the scientists and industrial partners on the latest developments concerning the uncertainty theories and soft computing. More generally, the subjects covered are possibility theory, belief functions, imprecise probability, random set and fuzzy set theory. The contributions focus on modelling, managing and information fusion using these theories.

This special issue of the International Journal Fuzzy Sets and Systems contains thoroughly revised and significantly extended versions of six selected best papers initially presented at LFA 2015.

In the paper entitled "New axiomatisations of discrete quantitative and qualitative possibilistic integrals" by D. Dubois and A. Rico, the author revisit Choquet and Sugeno integrals as criteria for decision under uncertainty and propose new axioms when uncertainty is representable in possibility theory.

The second paper entitled "A fuzzy expert system architecture for data and event stream processing" is authored by J.-P. Poli and L. Boudet. In this paper, the authors introduce a modular fuzzy expert system whose architecture relies on both a graph-based representation of the rule base and the cooperation of four customizable modules.

In their paper "Qualitative conditioning in an interval-based possibilistic setting", S. Benferhat, V. Kreinovich, A. Levray and K. Tabia deal with conditional uncertain information in a qualitative interval-valued possibilistic setting. In particular, a set of three natural postulates for conditioning interval-based possibility distributions is provided.

In the paper "Kendall's rank correlation on quantized data: an interval-valued approach", I. Couso, O. Strauss and H. Saulnier propose an extension of Kendall's tau to obtain an imprecise tau and an algorithm to compute this interval-valued index.

In the paper "k-maxitive Sugeno integrals as aggregation models for ordinal preferences", Q. Brabant and M. Couceiro consider an ordinal variant of k-additivity, so-called k-maxitivity, and present an axiomatization of the class of k-maxitive Sugeno integrals over distributive lattices.

In their paper entitled "Virtual strain gauge based on a fuzzy discrete angular domain observer: application to engine and clutch torque estimation issues", R. Losero, J. Lauber and T.-M. Guerra investigate the problem of using a physical torque sensor. Usually, for reasons of cost and bulk, these physical sensors are not used and in this case the torque is not measured. To solve this problem, the authors propose a virtual strain gauge based on an unknown input Takagi–Sugeno discrete observer.

We would like to thank all the authors who submitted papers for consideration to this special issue. Special thanks go to members of the LFA 2015 Program Committee for their efforts in reviewing the conference submissions. We are also deeply indebted to the referees of this special issue for their timely expertise in carefully reviewing the journal contributions and for helping to improve the quality of the papers.

https://doi.org/10.1016/j.fss.2018.03.003

Last but not least, our gratitude goes to the editorial office of Fuzzy Sets and Systems for a perfect collaboration during preparation of this special issue.

Guest Editors

Allel Hadjali *
LIAS, ISAE-ENSMA, Poitiers, France
E-mail address: allel.hadjali@ensma.fr

Eric Lefevre *
LGI2A, Universté d'Artois, France
E-mail address: eric.lefevre@univ-artois.fr

4 March 2018
Available online 13 March 2018

* Corresponding authors.