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Special Sessions on Type-2 Fuzzy Logic Theory

Type-2 fuzzy logic is a paradigm which takes the fundamental concepts from type-1 fuzzy logic and expands upon them in order to provide the means to address, investigate and model uncertainty about degrees of fuzzy set membership.

The interest in type-2 fuzzy logic, specifically in both its "flavours": interval type-2 and general type-2 fuzzy logic, has steadily grown over recent years. This rise in interest has been fuelled both by the realization that type-2 fuzzy logic can indeed provide benefits in terms of uncertainty handling and modelling of uncertain concepts/variables/terms where it is very hard or impossible to define type-1 fuzzy sets with “crisp” degrees of membership as well as a multitude of applications showing benefits of employing type-2 fuzzy logic.

A stream of new theoretical results has served to make type-2 fuzzy logic more efficient, more accessible and more applicable to real world systems.

Finally, a series of “new” applications such as Computing With Words provide a large scope for both practical and theoretical research results.

The aim of this special session is to further this vital trend in the progress of type-2 fuzzy logic theory and to present top-quality research in the area of type-2 fuzzy logic theory. This session will address advances in interval type-2 as well as general type-2 fuzzy logic theory and as such provide a window into the future of type-2 fuzzy logic systems and its potential applications.

Topics include, but are not limited to:

- Interval Type-2 Fuzzy Logic Systems
- General Type-2 Fuzzy Logic Systems
- Type-2 Fuzzy Logic Operators
- Type-2 Fuzzy Logic Sets and their Design
- Interpretation of Fuzzy Sets and their Uncertainty model.
- Type-2 Fuzzy Logic Complexity
- Type-2 Fuzzy Logic Representation and Notation

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