

## Tentative Outline

### *Special Thematic Issue for the journal : Journal of Fuzzy Logic and Modeling in Engineering*

#### **Title of the Thematic Issue: Picture Fuzzy Sets and Their Applications in Pattern Recognition and Image Processing**

*Sectional Editor: Hüseyin Kamacı*

#### • **Scope of the Thematic Issue:**

Since the first introduction in 1965 by Prof. Lotfi Zadeh, fuzzy set theory is an effective approach for dealing with several problems relating to ambiguous, subjective, and imprecise judgments. It is a powerful tool that people use to model assessments based on imprecise and non-numerical information. The picture fuzzy sets, which are extensions of fuzzy sets, intuitionistic fuzzy sets, Pythagorean fuzzy sets, q-rung orthopair fuzzy sets have been studied widely and in depth both in theory and applications by worldwide researchers. The pattern recognition is one's ability to memorize and retrieve patterns upon constant exposure to its repetition. In other words, the pattern recognition is referred to matching the database information with the incoming data. The image processing is a method of performing some operations on an image to obtain an enhanced image or extract some useful information from it. It is a type of signal processing where the input is an image and the output may be the image or features/characteristics associated with that image. The purpose of this Special/Thematic Issue is to gather a collection of articles on the latest research and developments in pattern recognition and image processing of picture fuzzy sets.

**Keywords:** Picture fuzzy sets, picture fuzzy numbers, picture fuzzy hybrid models, pattern recognition, image processing

#### **Sub-topics:**

- Picture fuzzy set theory
- Extensions and generalizations of picture fuzzy sets
- Picture fuzzy aggregation operators
- Picture fuzzy algebraic/topological structures
- Picture fuzzy expert systems
- Picture fuzzy matrices with applications
- Pattern recognition applications of picture fuzzy sets
- Picture fuzzy approaches in imaging processing
- Soft computing techniques based on picture fuzzy sets
- Picture fuzzy decision support systems

#### **Schedule:**

- ✧ Thematic issue submission deadline: April 30, 2023.

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