



BioMed Research International

Special Issue on  
**Pattern Recognition in Bioinformatics**

# CALL FOR PAPERS

Every accumulation of data in its raw form holds obscure patterns. Pattern recognition deals with the science of transforming and classifying entities on the basis of these patterns. It is a vast field as it deals with data from diverse sources. Data can be of single dimensional nature, as in the case of stock exchanges and sound; two dimensional, as in the case of images; and even multidimensional. Researchers have worked on various stochastic, probabilistic, and neurocognitive techniques for classifying patterns. The ultimate objective is to make machines ideally as intelligent as humans in recognizing these patterns which help to form automated systems for conduction of routine matters.

Many researchers have formed systems in which data from a camera source is used for various purposes like surveillance, event detection, and emotion and action recognition. Some researchers worked to find patterns in digital sound for the purpose of voice recognition and identification. The rise and fall in share price also form patterns; some researchers have used this data from stock exchange to predict stock prices. Furthermore, the genetic and protein structure in living organism's form intrinsic patterns. Data collected from the decomposition of these proteins into simpler amino acids helps in identifying these patterns and hence classifying the protein. Bioinformatics does not just deal with the application of pattern recognition for protein classification, but it also incorporates the use of computational intelligence in protein sequencing, gene expression, comparative genomics, mutation, disease genetics, and molecular interaction networks. Reasonably, any biological problem whose solution requires the use of an intelligent computational model pertains to the field of Bioinformatics.

This special issue focuses on the innovation of cutting edge technology in the fields of pattern recognition and Bioinformatics, which will enable the industry to develop accurate and robust intelligent systems.

Potential topics include, but are not limited to:

- ▶ Neurocognitive paradigms
- ▶ Nature inspired computing
- ▶ Protein sequencing and classification
- ▶ Disease control
- ▶ Molecular dynamics simulation
- ▶ Protein docking and drug design
- ▶ Image processing including medical imaging
- ▶ Neural networks

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