



## Special Session #1

### “Intelligent Computing in Multidisciplinary Engineering Applications”

**Aims and Scope:** Computational intelligence serves as a powerful tool to mimic and process human knowledge. This has yielded a spectrum of intelligent computing approaches to optimize multidisciplinary engineering applications. Although ‘Intelligent Computing’ is a developed area of research, many new findings are being evolved by researchers in multitude of applications. It is known that hybridization of computational approaches with traditional engineering methodologies and applications has become a topic of increasing interest for both researchers and developers globally from academia as well as industries. The theme will address advances in theories, concepts (mathematical as well as physical) and methodologies of artificial intelligence, soft computing & machine learning where they could be applied to numerous interdisciplinary domains of engineering as well as bio-medical. The purpose of this special session is to publish high-quality research papers as well as review articles addressing recent advances on computational intelligence and its application in engineering. The theme covers following topics (intelligent algorithms with their prospective applications in any of these domains) **but not limited to:**

#### Algorithms

- Evolutionary Computation
- Swarm Intelligence
- Artificial Neural Networks
- DNA and Molecular Computing
- Membrane Computing
- Biological Computing (Bio-inspired computing)
- Artificial Immune Systems
- Autonomy-Oriented Computing
- Agent based Systems
- Computational Neuroscience
- Fuzzy Systems
- Genetic Algorithms
- Hybrid Systems
- Multi-/Many-Objective Optimization
- Deep learning
- Convolutional neural network

#### Applications

- Multimedia & Text Processing
- Computational Neuroscience
- Pattern Recognition and Machine Learning
- Signal, Image and Video Processing
- Speech Processing
- Data Fusion, Knowledge Discovery and Data Mining
- Expert Systems, Information Security
- Computer Vision
- Cloud Computing, Nanotechnology
- Bio-informatics, Parallel Computing
- Natural Language Processing
- Human computer interactions
- Segmentation
- Gesture analysis, Robotic vision systems, Biometrics, Security and Forensics Applications

#### Publication- of Proceedings

All WS4 papers presented papers (at the conference venue or by video conferencing) will be published in conference proceedings by IEEE and would be online at IEEEXplore. This would be indexed in international databases like Scopus, Inspec, Google Scholar and more.



**Special Session Chairs:**

**Dr. Vikrant Bhateja**

Department of Electronics and Communication Engineering,  
SRMGPC, Lucknow (U.P.), India.

**Prof. (Dr.) Suresh Chandra Satapathy**

School of Computer Engg,  
Kalinga Institute of Industrial Technology (KIIT)  
Deemed to be University, Bhubaneswar, Odisha, India.

**Prof. (Dr.) Eugene Yu-Dong Zhang**

Chair in Knowledge Discovery and Machine Learning  
Department of Informatics,  
University of Leicester, UK.

**Special Session Timelines:**

**Submission Deadline: 30 April 2019**

**Decision Notification: 10 May 2019**

**Registration and CRC: 20 May 2019**

All submissions should be made directly at the Session Chair(s) E-Mail ID:  
[bhateja.vikrant@ieee.org](mailto:bhateja.vikrant@ieee.org); [bhateja.vikrant@gmail.com](mailto:bhateja.vikrant@gmail.com)

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