

# **Special Session on Soft computing techniques in Wireless Networks & Cloud Computing**

(5th International Conference on Soft Computing for Problem Solving)  
December 18-20, 2015 at SAHARANPUR CAMPUS, INDIAN INSTITUTE OF TECHNOLOGY ROORKEE, INDIA

## **Aim and Scope**

Soft computing is a synergistic combination of artificial intelligence methodologies to model and solve real world problems that are either impossible or too difficult to model mathematically. Furthermore, the use of conventional modeling techniques demand rigor, precision and certainty, which carry computational cost. On the other hand, soft computing utilizes computation, reasoning and inference to reduce computational cost by exploiting tolerance for imprecision, uncertainty, partial truth and approximation. In addition to computational cost savings, soft computing is an excellent platform for autonomic computing, owing to its roots in artificial intelligence. Wireless communication networks are associated with much uncertainty and imprecision due to a number of stochastic processes such as escalating number of access points, constantly changing propagation channels, sudden variations in network load and random mobility of users. The wireless network operates in a less controlled environment, so is more susceptible to interference, signal loss, noise, and eavesdropping. Generally, wireless facilities have lower data rates than guided facilities. Frequencies can be more easily reused with guided media than with wireless media. This reality has fueled numerous applications of soft computing techniques in area of wireless communication and networking.

The aim of this session is to invite scientists and researchers working in the field of wireless networking and cloud computing using soft computing tools. This special session invites research articles on soft computing techniques for various domains and applications of wireless networking.

## **First Call for papers**

Papers are invited (but not limited to) on the following topics

### **Soft computing techniques** in Infrastructure Wireless Networks (WLAN etc)

- Architectures and protocols for wireless networks
- Energy efficient technologies
- MAC, routing and transport protocols for wireless networks
- Energy efficient wireless devices

- Collaborative/cooperative/cognitive networking protocols
- Energy-Performance tradeoff
- Future wireless networks
- Microwave & antenna propagation
- Signal Processing/ Data Communication

### **Soft computing techniques** in Ad Hoc Network

- Physical layer techniques, channel/network coding for energy efficiency
- MAC, routing and transport protocols for wireless ad hoc networks
- Localization and location aware routing protocols
- Energy-efficiency in mobile ad hoc networks
- Energy-efficiency in mobile ad hoc networks
- Energy-efficiency in vehicular networks
- Energy-efficiency in wireless sensor networks
- Energy-efficient design for wireless e-health applications
- Cross-layer protocol design
- Collaborative/cooperative/cognitive networking protocols
- Algorithms for scheduling and resource management
- Energy efficient ad hoc network services
- Energy efficient algorithms and implementations in Internet of Things
- Test beds and experimental results related to energy efficient design

### **Soft computing techniques** in Cloud Computing

#### **Cloud as a Service**

- Infrastructure as a service (IaaS)
- Platform as a service (PaaS) and Cloud Foudry
- Software as a service (SaaS)

#### **Cloud Infrastructure**

- Cloud Computing Architectures
- Storage ad Data Architectures
- Distributed and Cloud Networking
- Public, Private, and Hybrid Clouds

### **Cloud Security**

- Cloud Security
- Data Privacy
- Cloud Privacy
- Security as a service

### **Performance, scalability, and reliability**

- Performance of cloud systems and applications
- Cloud Availability and Reliability
- Micro-services based architecture

### **Data Analytics in Cloud**

- Analytics Applications
- Scientific Computing and Data Management
- Big data management and analytics
- Storage, Data, and Analytics Clouds

### **Cloud Applications**

- Large Scale Cloud Application
- Innovative Cloud Applications and Experiences
- Social, and Mobile Clouds

## **Session Chair**

**Dr. S. C. Sharma,**

Professor, DPT, IIT Roorkee, India

## **Submission instructions**

All submissions will be peer-reviewed by experts in the field based on originality, significance and clarity. Authors must follow the instructions outlined in [http://scrs.in/socpros15/call\\_paper.php](http://scrs.in/socpros15/call_paper.php). The accepted and presented papers will be published in the conference proceedings. Proceedings will be published by Springer AISC Series.

## **Key Dates**

Paper Submission Ends: **June 15, 2015**

Acceptance Notification: **August 10, 2015**

Final Paper Deadline: **September 1, 2015**