

## CALL FOR PAPERS

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### Supported by:



IEEE Computational Intelligence Society Colombian Chapter and IEEE Colombia Section have chosen Cali as the venue for the IEEE Colombian Conference on Applications of Computational Intelligence Co/CACI 2020. As previous version, the conference seeks to become the most important event in computational intelligence and related fields in Colombia, putting together academic, scientific and industry.

During the past decade, the city has gained national and international recognition for its potential to become one of the most important cities in Latin America and the Pacific in terms of logistics, manufacturing and creative industry. Cali, main city of the Pacific region of Colombia, known as a commercial, service and cultural hub, offers a vivid and dynamic environment for creation of innovative solutions, a wide variety of economic sectors, including both small and large companies as well as agricultural industry, a growing ICT ecosystem and high quality universities.

We hope that local academy and industry will take active participation in IEEE Co/CACI 2020. Papers will be reviewed by an international technical committee under the IEEE standard procedure and accepted papers must be presented in oral session. This process is mandatory for the paper to be published in the conference proceedings (IEEE Xplore database, including ISBN).

## TOPICS

We encourage the submission of original, unpublished research focused on (but not limited to) the following topics of interest:

### NEURAL NETWORKS AND LEARNING MACHINES

- Cognitive models
- Neural control and planning
- Self-organization
- Deep learning
- Neural networks theory
- Bayesian networks
- Bayesian learning and approximate inference
- Kernel methods
- Generative models
- Information theoretic learning
- Reinforcement learning
- Feature extraction and manifold learning
- Data mining
- Pattern recognition and machine learning

### EVOLUTIONARY AND SWARM ALGORITHMS

- Memetic and collective intelligence
- Artificial Immune Systems
- Metaheuristics and hyper-heuristics
- Ant colony for neural networks optimization
- Bio-inspired computing and Evolutionary algorithms
- Chaos theory in genetic algorithms
- Genetic fuzzy systems
- Genetic neural systems
- Multi-objective optimization
- Hybrid optimization techniques
- Hybrid intelligent systems for pattern recognition
- Nature-inspired smart hybrid systems
- Neuro-Fuzzy-Genetic approaches
- Neural Agents

### FUZZY SETS AND SYSTEMS

- Fuzzy control, robotics, sensors, hardware and architectures
- Fuzzy data analysis
- Fuzzy clustering
- Classification and pattern recognition
- Fuzzy systems with big data and cloud computing
- Fuzzy systems design and optimization
- Fuzzy decision analysis
- Fuzzy logic and its application in Industrial engineering
- Fuzzy modelling, identification and fault detection
- Fuzzy information processing
- Fuzzy web engineering
- Fuzzy image, speech and signal processing
- Fuzzy sets and soft computing in social sciences
- Fuzzy logic applications in civil engineering, geographical information systems

### OTHER APPLICATIONS OF CI

- Industry 4.0
- Robotics
- Internet of things
- Artificial Intelligence
- Biomedical engineering applications
- Image and signal processing
- Natural language processing
- Big data and scalable algorithms/applications
- Smart grid applications
- Intelligent transportation
- Smart traffic system operations
- Bioinformatics
- Brain computer interfaces
- Neurosciences
- Neural hardware

## IMPORTANT DATES

Submission: February 21<sup>st</sup>, 2020

Notification: March 23<sup>rd</sup>, 2020

Camera-ready: April 24<sup>th</sup>, 2020

## PAPER SUBMISSION

We invite authors to submit high-quality full papers reporting original and novel research results on all above topics. Papers must be written in Spanish or English, unpublished and not submitted elsewhere. Full papers must be formatted as the standard IEEE double-column conference template and submitted exclusively using the link <http://iee-colcaci.org/authors.html>. Maximum 6 pages are allowed for each paper, including all illustrations and references.

### Contact:

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