

CALL FOR PAPERS

General Chair:

Oscar Javier Suarez Sierra,
Universidad de Pamplona



Technical Chair:

Jesús Alfonso López Sotelo,
Universidad Autónoma de Occidente



Publication Co-Chairs:

Carlos Jesus Vega Perez,
Uptime Analytics



José Luis Paniagua Jaramillo,
Universidad Autónoma de Occidente



Financial Chair:

Alvaro David Orjuela-Cañón,
Universidad del Rosario



Contact:

cis@ieee.org.co

<https://2024.ieee-colcaci.org/>

IEEE Computational Intelligence Society Colombian Chapter and IEEE Colombia Section have chosen Pamplona city as the venue for the **IEEE Colombian Conference on Applications of Computational Intelligence - CoICACI 2024**. Like the previous versions, the conference seeks to become the most important event in computational intelligence and related fields in Colombia, Andean and Latin American region, and other countries around, putting together academic, scientific, and industry.

During the past decade, CoICACI has gained national and international recognition for its potential to receive contributions from important cities in Latin America. This **seventh edition** pretends to be a hub for the CI area, sharing knowledge and networks about the direct applications in our context.

We hope that local academy and industry will take active participation in CoICACI 2024. 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We encourage the submission of original, unpublished research focused on (but not limited to) the following topics of interest: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 Education

IMPORTANT DATES

Submission: April 19th, 2024
Notification: May 19th, 2024

Camera-ready: June 17th, 2024
Conference: July 17th - 19th, 2024

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, Portuguese 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 <https://2024.ieee-colcaci.org/authors/>. Maximum 6 pages are allowed for each paper, including all illustrations and references.

VENUE

Universidad de Pamplona is a Colombian public university located in the municipality of Pamplona, Norte de Santander. It was founded in 1960 by the presbyter José Rafael Faría Bermúdez. In 1970 it developed into a public University with State order and in 1971 the Ministry of Education entitled it to bestow professional titles. During the 60's and 70's, the University grew in the teacher schooling field, in most of the subjects which should be taught in the educational system: Mathematics, Chemistry, Biology, Social Studies, Pedagogy, Educational Administration, Foreign Languages, Spanish and Literature and Physical Education. Afterwards, in the 90's the fields of Science and Technology, Microbiology Programs majoring in Food were created along with Food and Electronics Engineering and Environmental Sanitation Technology. Currently is a university accredited at a national and international level.