

ICANNGA 2005 7th International Conference on Adaptive and Natural Computing Algorithms

CALL FOR PAPERS



to be held at University of Coimbra,
Portugal, March 21st – 23rd, 2005

The focus of ICANNGA is on both the theoretical aspects and also on the practical applications of computational paradigms inspired by adaptive and natural processes, with special emphasis on adaptive and machine learning systems, neural networks, evolutionary algorithms, fuzzy systems, support vector machines, biological computation and quantum computing.

It is expected that the conference will be preceded by a day of tutorials on 20th March 2005.



Contributions are sought in the following topic areas list, which is not exhaustive

- **Neural Networks:** architectures, algorithms, learning theory, approximation, complexity, biological foundations, computational neuroscience, neurodynamics, associative memory, cognitive science, neurocognition, unsupervised learning, reinforcement learning, kernel learning, support vector machines, independent component analysis
- **Evolutionary Computation:** genetic algorithms, genetic programming, biological computation, classifier systems, artificial life, artificial immune systems, particle swarm intelligence, evolution strategies, ant colony optimisation, swarm intelligence, evolvable hardware
- **Soft Computing:** fuzzy systems, fuzzy dynamical systems, uncertain systems, hybrid systems, neuro-fuzzy controllers, genetic learning of neural networks, embedded computing for intelligent systems, real-time computational intelligence, probabilistic computing, chaotic computing, machine learning
- **Bioinformatics and Computational Biology:** molecular computing, DNA computing, bioinformatics databases, computational genomics, computational proteomics, clustering, mapping gene expression and micro arrays, gene identification and annotation, molecular evolution, molecular sequence analysis, protein structure
- **Quantum Computing:** quantum control, supercomputing, autonomic computing, data mining of scientific data, grid computing, advanced algorithms
- **Applications:** medicine, prediction of atmospheric pollution and weather forecasting, quantitative socio-dynamics, pattern recognition, signal processing, control, simulation, robotics, transport, defence, security, environment, finance and business, data mining and Intelligent databases, speech recognition and natural language, intelligence image processing and computer vision

Sponsors



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FCT Fundação para a Ciência e a Tecnologia
MINISTÉRIO DA CIÊNCIA E DO ENSINO SUPERIOR
Portugal

The official conference language is English.

The conference proceedings will be published by Springer-Verlag (Vienna) following the tradition of its predecessors.



Springer

Paper Submission

Contributed papers, invited sessions and tutorial proposals are solicited. Authors should submit a full paper of their proposed contribution before 15th September 2004. Contributed papers and papers for invited sessions must comply with the Springer-Verlag conference format (<http://icannga05.dei.uc.pt/authors>) and should not exceed 4 two-column pages. Prospective authors are invited to submit full papers in PDF or Postscript format through the conference Web site. For instructions on how to submit a proposal for an invited session, see the conference Web site.

Important Dates

- Submission of tutorials and invited session proposals: 30th July 2004
- Submission of draft papers: 15th September 2004
- Notification of acceptance: 15th November 2004
- Delivery of camera-ready papers: 15th December 2004
- Conference dates: 21st, 22nd and 23rd March 2005

Further information please contact

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ICANNGA

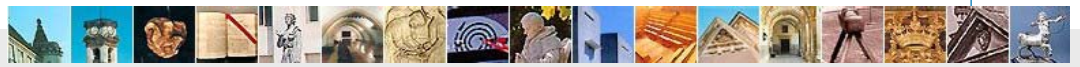
The ICANNGA series of Conferences has been organised since 1993 and has a long history of promoting the principles and understanding of computational intelligence paradigms within the scientific community. Starting in Innsbruck, in Austria (1993), thence to Alès in France (1995), Norwich in England (1997), Porto Roz in Slovenia (1999), Prague in Czech Republic (2001) and finally Roanne, in France (2003), the ICANNGA series has established itself for established workers in the fields. The series has also been of value to young researchers wishing both to extend their knowledge and experience and also meet skilled workers in their fields.

The 2005 Conference, the seventh in the ICANNGA series, will take place at Coimbra University in Portugal, drawing on the experience of previous events, and following the same general model, combining technical sessions, including plenary lectures by renowned scientists, with tutorials and workshop panels.

Coimbra

Coimbra University is the oldest University in Portugal and one of the oldest in Europe (with a history in excess of 700 years) and has always been ready to embrace new challenges over the years. It thus offers a perfect environment to discuss the most important computing paradigms of modern informatics. In a rapidly advancing world, where technology and engineering change dramatically, new challenges in modern informatics compel us to broaden the Conference themes in order to take into account new developments. Nevertheless we have kept the acronym ICANNGA, which now stands for International Conference on Adaptive and Natural Computing Algorithms.

Coimbra is an old city, dating from before to the arrival of the Romans in Lusitania. It is located on the border line between the highlands and lowlands in the Central Region of Portugal, boasting some of the finest architectural examples in the country.



The oldest Portuguese University, with a history spanning seven centuries and with a large spectrum of expertise, is its most precious asset. Traditional and new areas of Engineering are taught and investigated at the Faculty of Science and Technology in comfortable and attractive surroundings.

The town is about 200 kms north of Lisbon, and 100 kms south of Oporto, both cities with major airport. Coimbra is easily accessible from these international airports and railway stations at both cities, using the regular local train service between Lisbon or Oporto and Coimbra.

Travel and hotel information for conference delegates will be disseminated via the conference web site. A social programme will be designed for all delegates and accompanying persons. It will include an organ concert at the University Chapel, a welcome reception at the Old Cathedral Cloisters, and a conference dinner in a former royal residence.

Social Events

1. March 21st, 19:00 - Organ Concert at the University Chapel.
2. March 21st, 20:00 - Welcome Reception in the cloisters of Sé Velha
(11th century Cathedral, located at 5 minutes walking distance from the Conference Center).
3. March 22nd, 20:20 - Banquet Dinner, in the São Marcos's Palace (former summer royal residence).
4. March 24th, 09:00 - 19:00, Post-conference Tour: Full-day tour to Alcobaca, Óbidos, Nazaré and Batalha.

Social Program For Accompanying Persons

1. March 22nd, 9:00 - 17:30, Full-day tour to Coimbra.
2. March 23rd, 9:00 - 18:00, Full-day tour to Conímbriga, Buçaco, and Luso (Thermal Springs).

Tours Pre-Registration

Tours will take place with a minimum of 25 persons. In order to help planning the tours please fill in and send the Pre-Registration Form (PDF format or Microsoft Word format) until 15th of March.

