Call for Papers

Session Overview

Evolutionary computation and swarm intelligence algorithms consist of a population of semi-autonomous agents coupled with a mechanism for social interaction. Despite the characteristically simple rules governing each individual agent, an intelligent collective behaviour emerges as a result of the social interactions among agents. Often, the emergence of such collective intelligence is contingent upon employing an appropriate configuration of the algorithm. However, the optimal configuration for an algorithm is typically problem dependent and may change throughout the search process. Thus, determining an appropriate configuration *a priori* may lead to sub-optimal performance. To address the shortcomings of *a priori* configuration, adaptive evolutionary computation and swarm intelligence algorithms aim to modify their configurations during the search process based on various observations. The purpose of this special session is to provide a forum for researchers to disseminate their original research in the field of adaptive evolutionary computation and swarm intelligence algorithms.

Topics of interest include (but not limited to):

- Adaptive variants of evolutionary computation and swarm intelligence algorithms, such as:
    - Particle swarm optimization
    - Differential evolution
    - Genetic algorithms
    - Ant colony optimization
- Parameter configuration landscapes
- Parameter landscape aware tuning
- New self-adaptive schemes
- Empirical analysis of adaptive algorithms
- Analysis of convergence/stability behaviour
- Sensitivity analysis of control parameters
- Parameter control mechanisms
- Adaptive algorithms in dynamic and multi-objective environments
- Automated cooperation/competition mechanisms
- Algorithmic state categorization
- Automated population sizing and structuring
- Adaptive inter-agent communication mechanisms

Important Dates

Paper Submission	13 January 2023
Paper Reviews	3 March 2023
Paper Resubmissions	24 March 2023
Paper Final Notifications	31 March 2023
Print-Ready Submission	15 April 2023

Submission Procedure

Please follow the submission guidelines from the IEEE CEC 2023 website, ensuring that you specify your paper is for the special session: **Adaptive Evolutionary Computation and Swarm Intelligence Algorithms.**

Session Organizers

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