

## IEEE ICNSC 2023

October 25-27, 2023, Marseille, France



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Systems, Man, and Cybernetics Society



### Proposal for Special Session at ICNSC'23

#### **Session Title: Swarm and evolutionary algorithms for solving complex scheduling and optimization problems**

#### **Description and Aim:**

Swarm and evolutionary algorithms have been employed and improved for solving complex optimization and scheduling problems in various areas successfully due to their applicability and interesting computational aspects. This session deals with modeling, optimizing and scheduling challenges of engineering problems by swarm and evolutionary algorithms. It aims specifically at the most recent developments of swarm and evolutionary algorithms, ensemble with machine learning algorithms, and applications for various complex scheduling and optimization problems.

#### **The potential topics include (but are not limited to):**

- ◆ Multi-objective, multi-task, and multi-constraint optimization
- ◆ Large-scale global optimization
- ◆ Ensemble swarm and evolutionary algorithms with machine learning
- ◆ Learning-based swarm and evolutionary algorithms
- ◆ Swarm and evolutionary algorithms for
  - ◇ production scheduling problems
  - ◇ energy-efficiency scheduling problems
  - ◇ traffic signal control, optimization, and scheduling
  - ◇ vehicle routing problems
  - ◇ unmanned vehicles/unmanned surface vessels task assignment and routing planning
  - ◇ project scheduling
  - ◇ grid/cloud scheduling
  - ◇ scheduling and optimization problems in smart city
  - ◇ scheduling and optimization problems in smart building and home
- ◆ New real-world and innovative applications of swarm and evolutionary algorithms

**Expected number of papers: 5-8**

#### **Organizers:**



**GDR** Groupement de recherche  
**MACS** Modélisation, Analyse et Conduite des Systèmes dynamiques



# 20<sup>th</sup> IEEE International Conference on Networking, Sensing and Control

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