ANTS 2020

Twelfth International Conference on
Swarm Intelligence

October 26–28, 2020. Barcelona

Call for papers prepared on July 26, 2019. Version: v001
Up-to-date information at `http://www.swarm-intelligence.eu/ants2020/`

Scope of the Conference

Swarm intelligence is the discipline that deals with the study of self-organizing processes both in nature and in artificial systems. Researchers in ethology and animal behavior have proposed a number of models to explain interesting aspects of collective behaviors such as movement co-ordination, shape-formation or decision making. Recently, algorithms and methods inspired by these models have been proposed to solve difficult problems in many domains. Among these, it is worth mentioning **ant colony optimization** (ACO) and **particle swarm optimization** (PSO), focusing respectively on discrete and continuous optimisation problems. Also, **Swarm robotics** represents another application of techniques derived from swarm intelligence for the design of collaborative multi-robot systems featuring enhanced efficiency, robustness and scalability.

ANTS 2020 will give researchers in swarm intelligence the opportunity to meet, to present their latest research, and to discuss current developments and applications. The three-day conference will be held for the first time in Barcelona, on October 26–28, 2020.

Relevant Research Areas

ANTS 2020 solicits contributions dealing with any aspect of swarm intelligence. Typical, but not exclusive, topics of interest are:

- Behavioral models of social insects or other animal societies that can stimulate new algorithmic approaches.

- Theoretical and empirical research in swarm intelligence.

- Application of swarm intelligence methods (e.g., ant colony optimisation or particle swarm optimisation) to real-world problems.

- Theoretical and experimental research in swarm robotics systems.

Important Dates

Submission deadline	April 17, 2020
Notification of acceptance	June 19, 2020
Camera ready copy	July 3, 2020
Conference	October 26-28, 2020

Keynote Speakers

ANTS 2020 will feature three keynotes covering the main domains within the scope of the conference—namely, theoretical models, swarm robotics and optimisation algorithms.

Publication Details

As for previous editions of the conference, the proceedings are planned to be published in Springer's LNCS series (confirmation pending). The journal *Swarm Intelligence* will publish a special issue dedicated to ANTS 2020 that will contain extended versions of the best research works presented at the conference. Further details will soon be published on the web site.

Conference Location

Residencia d'Investigadors, Carrer de l'Hospital, 64, 08001 Barcelona, Catalonia, Spain

Best Paper Award

A best paper award will be presented at the conference. Continuing the tradition of the ANTS Conference Series, the prize winner will receive a sculpture of an ant expressly created for the ANTS Conference by the Italian sculptor Matteo Pugliese.

Further Information

Up-to-date information will be published at the following address:
`http://www.swarm-intelligence.eu/ants2020/`
For information about local arrangements, registration forms, etc., please refer to the above-mentioned web site and to the local organisation.

ANTS 2020 Organizing Committee

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