

ANTS 2020

Twelfth International Conference on Swarm Intelligence

October 26–28, 2020. Barcelona

Call for papers prepared on April 2, 2020. Version: v002
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 coordination, 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.

COVID-19 Related Information

Sadly, the COVID-19 pandemic has currently brought the social, economic, and academic life in large parts of the world to a standstill. Moreover, it seems very hard to forecast the near (even medium) term future, making it uncertain whether it will be possible to have a physical meeting in Barcelona or not. In case it will not be possible to hold ANTS 2020 as an on-site conference, presenters will be required to provide video presentations of their papers and posters. These video presentations will be made available online by means of a dedicated website. Moreover, the proceedings will be sent by land mail to everyone who has registered.

Important Dates

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|------------------------------|---------------------|
| Extended submission deadline | May 1, 2020 |
| Notification of acceptance | July 10, 2020 |
| Camera ready copy | July 24, 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 will be published in Springer's LNCS series. 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

Registration Fee

Authors of accepted paper will be required to pay a registration fee for each accepted paper that will appear in the conference proceedings. The ANTS2020 registration fee is 460 Euros. The fee includes:

- Admission to all technical sessions
- One copy of the conference proceedings

Coffee breaks and a conference dinner will be offered by the organizing committee. In the unfortunate case of having to cancel the on-site conference because of the COVID-19 pandemic, the registration fee will be reduced to 160 EUR and therefore a reimbursement will be issued.

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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