

ANTS 2018

Eleventh International Conference on Swarm Intelligence

October 29–31, 2018. Rome, Italy

Call for papers prepared on January 19, 2018. Version: v002
Up-to-date information at <http://www.swarm-intelligence.eu/ants2018/>

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 2018 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 Rome, Italy, on October 29–31, 2018.

Relevant Research Areas

ANTS 2018 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 and 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 15, 2018
Notification of acceptance	June 15, 2018
Camera ready copy	June 29, 2018
Conference	October 29–31, 2018

Keynote Speakers

Seven keynote speakers will enrich the conference program. Three keynotes covering the main domains within the scope of the conference—namely, theoretical models, swarm robotics and optimisation algorithms—plus a special keynote session dedicated to the links between physics and collective behaviour:

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- David Sumpter
 - Alcherio Martinoli
 - Holger Hoos
 - Vittorio Loreto
 - Andrea Cavagna
 - Irene Giardina
 - Roberto Di Leonardo

Publication Details

Conference proceedings will be published by Springer in the LNCS series, as those of the last editions of the ANTS Conference. The journal *Swarm Intelligence* will publish a special issue dedicated to ANTS 2018 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

Aula Marconi, Consiglio Nazionale delle Ricerche,
Piazzale Aldo Moro 7, 00185 Rome, Italy

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/ants2018/>

For information about local arrangements, registration forms, etc., please refer to the above-mentioned web site and to the local organisation.

ANTS 2018 Organizing Committee

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