ANTS 2026

15TH INTERNATIONAL CONFERENCE ON SWARM INTELLIGENCE

JUNE 8–10, DARMSTADT

www.ants2026.org

Third Call for Papers

Up-to-date information at https://ants2026.org

Conference Scope

Since its inception in 1998, ANTS has been a highly selective, single-track meeting that provided a forum for discussing advances in the field of swarm intelligence. It solicits submissions presenting significant, original research from researchers and practitioners of any area related to swarm intelligence.

Swarm intelligence is an interdisciplinary and rapidly evolving field, rooted in the study of self-organizing processes in both natural and artificial systems. Researchers from disciplines ranging from ethology to statistical physics have developed models that explain collective phenomena, such as decision-making in social insect colonies and collective movements in human crowds. Swarm-inspired algorithms and methods have proven effective in solving complex optimization problems and creating multi-robot and networked systems of unparalleled resilience, adaptability and scalability. Applications of swarm intelligence continue to grow and become increasingly critical for addressing societal challenges such as environmental sustainability, food security, health, and global conflicts.

The 2026 theme is:

"Reaching beyond – swarm intelligence across systems, disciplines, and communities."
We invite ambitious, exploratory, and cross-disciplinary work to broaden the field's horizons.

Relevant Research Topics

Papers are solicited in all areas of swarm intelligence, including, but not limited to:

- Theoretical foundations of swarm intelligence and collective phenomena
- Modeling and analysis of self-organizing systems in nature, including many-particle systems, cellular systems, insect colonies, bird flocks, and human crowds
- Decision making in large groups e.g. consensus dynamics, mean-field games, social choice theory
- Swarm robotics, including colloidal systems, micro-robots, drones, and other autonomous vehicles
- Swarm optimization algorithms, including ACO, PSO, ABC
- LLMs and GenAI-in-the-loop systems in combination with swarm intelligence
- Large-scale distributed networks, such as smart dust, smart cities, or social networks
- Robotic materials and modular robots capable of self-repair, self-assembly or shape-shifting
- Distributed learning, coordination, and control in many-agent systems
- Human-centered swarm intelligence and human-swarm interaction
- Sustainable technologies for artificial and bio-hybrid swarms
- Creative and expressive uses of swarm principles in art, design and education
- Benchmarking and reproducibility in swarm intelligence research
- Ethical and societal implications of applications of swarm intelligence research
- Applications of swarm intelligence to real-world challenges

Important Dates

Submission deadline:	November 10, 2025
Notification of acceptance:	January 30, 2026
Camera ready copy:	February 13, 2026
Conference:	June 8-10, 2026

Plenary Talks

- Sharon Glotzer, University of Michigan, USA

Perspective Talks

- Amanda Prorok, University of Cambridge, UK
- Liam Young, SCI Arc, USA
- Thomas Watteyne, Analog Devices, USA

Submitting to ANTS 2026

Papers should be 7–11 pages (excluding references) using the Springer LNCS LaTeX template. The proceedings will be published in the LNCS series. Selected works will be invited for an extended version in a special issue of Swarm Intelligence.

Continuing with a tradition started at ANTS 2002 , the "Best Paper Award" at ANTS 2026 consists of a custom made sculpture of an ant specially made for the ANTS conference series by the Italian sculptor Matteo Pugliese.

Publication Details

All accepted contributions will be included in the proceedings of ANTS 2026, which will be published by Springer in the LNCS series. The journal Swarm Intelligence will publish a special issue dedicated to ANTS 2026 that will contain extended versions of selected research works presented at the conference. Further details will be published on the web site.

For this edition, authors may also submit an **accompanying video** with their paper. If accepted, the video will appear as electronic supplementary material on Springer Nature Link alongside the publication.

Conference Location

For the first time, the ANTS conference series will take place in Darmstadt, Germany. ANTS 2026 will be hosted by the Technical University of Darmstadt at the darmstadtium - Science and Congress Center, located in the heart of the city. The venue is walking distance to the UNESCO World Heritage site Mathildenhöhe Darmstadt, offering attendees a unique opportunity to experience both ground-breaking research and the rich cultural heritage of the city.

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