

Call for Papers

# *Swarm Intelligence for Knowledge Discovery in Data*

Special Issue for the International Journal  
**Machine Learning**

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**Deadline extended to June 30th**

## Scope

Swarm Intelligence is a relatively new subfield of artificial intelligence which studies the emergent collective intelligence of groups of simple agents. It is based on the social insects' metaphor where a number of insects with limited capabilities are able to come to intelligent solutions for complex problems. In recent decades the Swarm Intelligence paradigm has received widespread attention in research, mainly as Ant Colony Optimization (ACO) and Particle Swarm Optimization (PSO). Successful applications of swarm intelligence include the modelling of agent behaviour, such as the large numbers of fighting individuals in the battle scenes of the Lord of the Rings movies, and various optimization problems, such as the routing of packages through networks, the travelling salesman problem, scheduling, etc.

This special issue focuses on the intersection of the swarm intelligence paradigm with Machine Learning and Knowledge Discovery in Data. We solicit high-quality, previously unpublished papers where both domains are properly addressed.

Possible topics for papers include:

The application of

- Particle Swarm Optimization
- Ant Colony Optimization
- Stochastic Diffusion Search
- Any algorithmic approach based on biological swarm intelligence, such as bird flocking, fish schooling, bee behaviours, bacterial growth, animal herding, etc.

For

- Clustering
- Classification
- Regression
- Association Rule Mining
- Time Series Analysis
- Feature Selection

Other topics of interest are:

- Computational models of self-organizing systems

- Use of fine-grained parallel models, such as cellular automata, in machine learning and knowledge discovery
- Emergent behavior and its relationship to pattern recognition and learning

## Important Dates

Submission deadline:	<del>June 20, 2008</del> <b>June 30, 2008</b>
First notification:	September 26, 2008
Revised manuscripts due:	December 30, 2008
Final acceptance notification:	February, 2009
Intended publication date:	2009

## Submission Information

Manuscripts submitted to the Machine Learning Special Issue on Swarm Intelligence for Knowledge Discovery in Data, should be formatted according to the following style files:

<ftp://ftp.springer.de/pub/tex/latex/svjour/global.zip>

If the submission is accepted, the author must provide Springer with exclusive commercial distribution rights for six months. Authors will retain copyright of their work and be free to distribute it as they see fit, provided the distribution is non-commercial until six months after publication. Papers are published electronically immediately upon final acceptance.

More information on the Machine Learning journal can be found on:

<http://pages.stern.nyu.edu/~fprovost/MLJ/>

Only electronic submissions will be accepted. Please do not send submissions to the guest editors but use Springer's online submission system. When submitting the article, choose the article type "Special Issue: Swarm Intelligence".

<http://www.editorialmanager.com/mach>