

A Special Session on Artificial Immune Systems

In ANTS 2010: Seventh International Conference on Swarm Intelligence
September 8–10, 2010 Université Libre de Bruxelles, Brussels, Belgium
<http://iridia.ulb.ac.be/ants2010>

Aim and Scope

Artificial Immune Systems (AIS) is a diverse area of research that attempts to bridge the divide between immunology and engineering and are developed through the application of techniques such as mathematical and computational modelling of immunology, abstraction from those models into algorithm (and system) design and implementation in the context of engineering.

Such immune algorithms are typically inspired by various immune processes, and typically fall into one of four groups: negative selection, clonal selection, immune networks and danger theory based algorithms. These algorithms have been applied to a wide variety of applications including computer security, fault tolerance, data mining and optimisation to name a few.

Swarm intelligence is concerned with the design of distributed systems that display emergent behaviour at a system level, based on low-level interactions between agents and the environment. Many immune algorithms operate in a very similar manner, and exhibit similar higher level system behaviour.

The aim of this special session is to explore the relationship between immune and swarm systems, both at the natural and artificial (engineered) level and the use of immune-inspired approaches in a swarm intelligence setting, such as swarm robotics.

Topics of Interest

Original, high-quality papers on artificial immune systems are solicited to this special session. Relevant topics include, but are not limited to:

- Application of immune-inspired algorithms to swarm systems, such as swarm robotic systems
- Developments of novel immune algorithms
- Theoretical analysis of immune-inspired algorithms
- Comparative studies of immune-inspired system with swarm intelligence systems
- Explorative papers that discuss relationships between immune and swarm systems
- Papers exploring the use of modelling approaches in artificial immune systems

Paper Submission

This special session will be held as part of *ANTS 2010: Seventh International Conference on Swarm Intelligence*. Papers should be submitted through the conference's online submission system. For more information, see its website <http://iridia.ulb.ac.be/ants2010> Accepted papers will be included in Conference Proceedings, published as part of the LNCS series.

Important Dates

Submission deadline: February 28, 2010
Notification of acceptance: April 30, 2010
Camera ready copy: May 14, 2010
Conference: September 8-10, 2010

Session Chair

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