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**Title:**

Swarm Intelligence for Dynamic Optimization

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**Abstract:**

Many real-world applications can be formulated as optimization problems.  Depending on the purpose and/or characteristic of optimization, it will be formulated as different types of optimization such as multi-modal optimization, multi-objective optimization, combinatorial optimization, and large-scale optimization.  In general, these formulated optimization problems are hard to solve by pure mathematical approaches, therefore, swarm intelligence algorithms such as brain storm optimization algorithms and particle swarm optimization algorithms have been designed and utilized to solve them.  In reality, a lot of problems are essentially not static, but dynamic. For example, for a path planning problem in a transportation network, the optimal path has to be dynamically adjusted due to issues like traffic jam.  Consequently, according to the characteristic of the dynamic optimization to be solved, this study will focus on specially designing and utilizing swarm intelligence algorithms to solve dynamic optimization in which the dynamic changes can be the changes of the landscape, the changes of the location of optimal solutions, the change of number of objectives, the change of the number of variables, etc. which of them depends on the application itself, e.g. transportation or logistic problem.