



## Memetic search for the quadratic assignment problem

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Résumé en anglais	<p>The quadratic assignment problem (QAP) is one of the most studied NP-hard problems with various practical applications. In this work, we propose a powerful population-based memetic algorithm (called BMA) for QAP. BMA integrates an effective local optimization algorithm called Breakout Local Search (BLS) within the evolutionary computing framework which itself is based on a uniform crossover, a fitness-based pool updating strategy and an adaptive mutation procedure. Extensive computational studies on the set of 135 well-known benchmark instances from the QAPLIB revealed that the proposed algorithm is able to attain the best-known results for 133 instances and thus competes very favorably with the current most effective QAP approaches. A study of the search landscape and crossover operators is also proposed to shed light on the behavior of the algorithm.</p>
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### Liens

[1] [http://okina.univ-angers.fr/publications?f\[author\]=7482](http://okina.univ-angers.fr/publications?f[author]=7482)

[2] <http://okina.univ-angers.fr/jinkao.hao/publications>

[3] [http://okina.univ-angers.fr/publications?f\[keyword\]=10918](http://okina.univ-angers.fr/publications?f[keyword]=10918)

[4] <http://okina.univ-angers.fr/publications/ua7073>

[5] <http://dx.doi.org/10.1016/j.eswa.2014.08.011>

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