Special Issue on **Evolutionary Computation**

**CALL FOR PAPERS**

*Extended Deadline*: 14th October 2011

**Introduction**

Evolutionary computation is now an established research field at the intersection among artificial intelligence, computer science and operations research. Not only has it grown hugely in its breadth, it has also developed substantial depth in its theoretical foundations, especially in the computational time complexity analysis of randomised (meta-)heuristics.

Such enormous growth of evolutionary computation has seen numerous specialised journals and conferences in evolutionary computation emerging in the last decade or so. Some of the journals in evolutionary computation have been consistently ranked among the top few in artificial intelligence and computer science. For example, the two year impact factor of IEEE Transactions on Evolutionary Computation was 4.589 in 2009, which placed it the 2nd among 130 "Computer Science, Artificial Intelligence" journals, the 3rd among 91 "Computer Science, Theory & Methods" journals, and the 4th among all 426 Computer Science journals. According to the 5 year impact factor (7.621), IEEE Transactions on Evolutionary Computation was ranked the 2nd, 2nd and 4th, respectively, in the above categories. However, one of the potential risks of having such specialised journals and conferences might be the weakening of important communications and interactions between evolutionary computation and other fields in computer science and technology (CST) in general.

This special issue, which is organised in a generic CST journal, will try to encourage and promote closer interactions and cross-fertilisation between evolutionary computation and other areas in CST.

**Aims and Scopes**

The primary aim of this special issue is to publish the very best papers in evolutionary computation that define the state-of-the-art. Both theoretical and application papers are welcome. For theoretical papers, we are looking for major advances in any aspects related to the foundations of evolutionary computation. For application papers, we are looking for innovative and non-trivial applications of evolutionary computation.

**Topics**

All areas and topics related to evolutionary computation will be considered, including but not limited to:

- Adaptive behaviours
- Ant colony optimization
- Artificial immune systems
- Bioinformatics
- Collective intelligence
- Coevolution
- Combinatorial & numerical optimization
- Computer Vision
- Constraint handling
- Differential Evolution
- Dynamic environments
- Estimation of distribution algorithms
- Evolutionary data mining
- Evolutionary design
- Evolutionary games
- Evolutionary learning
- Evolvable hardware and software
- Evolved art & music
- Evolving fuzzy systems
- Evolving neural networks
- Memetic algorithms
- Multi-objective optimization
- Parallel evolutionary computation
- Real-world applications
- Representation and operators
- Self-adaptation
- Swarm intelligence

**Submission Procedure**

All submissions must be done electronically through JCST's e-submission system at [https://mc03.manuscriptcentral.com/jcst](https://mc03.manuscriptcentral.com/jcst) with a Manuscript Type: ‘Special Issue on Evolutionary Computation’. Although we have planned three rounds of rigorous reviews, papers may be rejected at any round. Rejected papers cannot be resubmitted to the special issue.

**Important Dates**

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<thead>
<tr>
<th>Submission:</th>
<th>14 October 2011</th>
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<tr>
<td>First revision:</td>
<td>30 November 2011</td>
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<tr>
<td>Second revision:</td>
<td>31 January 2011</td>
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<td>Final decision:</td>
<td>29 February 2012</td>
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<td>Publication:</td>
<td>Second half of 2012</td>
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**Guest Editors**

- Pietro S. Oliveto ([P.S.Oliveto@cs.bham.ac.uk](mailto:P.S.Oliveto@cs.bham.ac.uk))
- Xin Yao ([X.Yao@cs.bham.ac.uk](mailto:X.Yao@cs.bham.ac.uk))
- CERCIA
- School of Computer Science
- University of Birmingham, UK