



## 2013 IEEE Workshop on Memetic Computing (MC 2013) within 2013 IEEE Symposium Series in Computational Intelligence (SSCI 2013)

**April 15-19, 2013, Singapore**

### IMPORTANT DATES:

<b>Paper Submission Due:</b>	<b>November 23, 2012</b>
<b>Notification to Authors:</b>	<b>January 05, 2013</b>
<b>Camera-Ready Papers Due:</b>	<b>February 05, 2013</b>

### 2013 IEEE Workshop on Memetic Computing

Memetic computation (MC) represents one of the recent growing areas in computational intelligence. Inspired by Darwinian principles of natural evolution and Dawkins notion of a meme, the term "Memetic Algorithm" (MA) is generally viewed as being close to a form of population-based hybrid global evolutionary algorithm (EA) coupled with a learning procedure capable of local refinements. In diverse contexts, MAs are also commonly known as hybrid EAs, Baldwinian EAs, Lamarckian EAs, cultural algorithms and genetic local search. The rapidly growing research interest in MA is demonstrated by the significant increase in the number of research publications on MA.

MC offers a broader scope that captures appropriately the essence of existing and potential work in the field. It is defined as a paradigm that uses the notion of meme(s) as units of information encoded in computational representations for the purpose of problem-solving. Besides MA, Representations in the forms such as decision tree, artificial neural works, fuzzy system, graphs, etc., are examples of various manifestations of memes encoding. Taking a lead from the multi-faceted definitions and roles of the term "meme" in memetics, a plethora of potentially rich MC methodologies, frameworks and operational meme-inspired algorithms have been developed with considerable success in several real-world domains in the last two decades.

Despite the vast research on MC, there remain many open issues and opportunities that are continually emerging as intriguing challenges for the field. The expanse of MC remains largely untapped and judging from the research activities devoted to this area in the last few years, it is a matter of time before we see more demonstrative and ground-breaking applications in this rich research arena. The aim of this symposium is to reflect the latest advances in MC, to explore the emerging or future directions of memetic research in computational intelligence, and to raise the awareness of the computing community at large on this effective technology. Specifically, we endeavor to demonstrate the current state-of-the-art concepts, theory, and practice of MC.

### Covered Topics

Authors are invited to submit their original and unpublished work in the areas including, but not limited to:

- Novel concepts of memetic computation and its adaptation into evolutionary framework and algorithms
- Competitive, collaborative and cooperative agent based memetic computation
- Cognitive & Brain inspired memetic computation
- Meme-gene coevolutionary frameworks and multi-inheritance model
- Formal and Probabilistic Single/Multi-Objective memetic frameworks
- Analytical/Theoretical advances in memetic framework
- Memes, memplexes, meta-memes in computing and high-order evolution
- Memetic frameworks that mimics individual learning, social learning and imitation
- Partial or full or meta-Lamarckian/Baldwinian, meta-learning, agent based memetic computation
- Parallel Memetic framework
- Memetic frameworks for handling computationally expensive problems

### Paper Submission

All papers should be submitted electronically through: <http://iee-ssci.org/>

All accepted papers will be published in the SSCI electronic proceedings, included in the IEEE Xplore digital library, and indexed by EI/Compendex.

Workshop website: <http://csse.szu.edu.cn/staff/zhuzx/MC2013.htm>

Conference website: <http://www.ieee-ssci.org/>

### Workshop Co-Chairs

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