Call for Papers – Special Issue of Journal of Heuristics

Intensification, Diversification and Learning in Metaheuristic Optimization

Guest Editors

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*Intensification, Diversification and Learning (IDL)*, separately or together, are fundamental components of methods for metaheuristic optimization. Although each may be studied independently of the others, in the more effective metaheuristic algorithms they are often interdependent, as legs of what may be called an *IDL triangle*, each leg intimately relying on the presence of the other two, so that a focus on any subset of the three is implicitly understood to operate in relationship to the missing component(s).

While numerous proposals have been made for methods in all three of these classifications, there remains a significant unexplored area, both conceptually and empirically, for integrating various elements of the three-sided IDL relationship. In some cases, general formulations await to be made complete by filling in specific details, and in other cases details await to be tested to determine their impact. New ideas have not always been thoroughly compared with previous ones, to identify their relative contribution. And within the space of possibility spanned by the legs of the IDL triangle, it is reasonable to speculate that there remains a vast region of formulations not yet conceived.

The power of modern metaheuristic algorithms to generate better solutions to complex optimization problems than could be found in the past motivates a closer look at the link between algorithmic effectiveness and the combined effects of intensification, diversification and learning.

The goal of this special issue is to provide a forum advancing the state-of-the-art of metaheuristic design based on the IDL interrelationship. Of particular interest are papers in the following areas, supported by theoretical or empirical analysis:

- New strategies for intensification, diversification and learning.
- New frameworks for integrating these IDL components
- IDL-based methods for obtaining improved solutions to important special problem classes.
- IDL-based methods to solve large problems more effectively.
- Comparative empirical studies of different IDL-based metaheuristics for solving important optimization problems.
• New theoretical results supporting the solution of special or general problem structures via an IDL focus.
• Modeling innovations enabling IDL-based methods to be applied more effectively.
• Discussion of important real-world applications.

Timeline for Special Issue:
Submission of papers: June 30, 2017 (papers submitted earlier may be reviewed more quickly)
Notification of first review: September 30, 2017
Revised (final) manuscripts due: February 1, 2018

NOTE: Authors should submit their manuscripts to the Journal of Heuristics Editorial Manager http://heur.edmgr.com. Enter system as an Author, click on Submit New Manuscript and then use the pull-down menu in the box for Choose Article Type to select S.I.: Intensification, Diversification and Learning.