

ECADA'15 Chairs' Welcome

It is our great pleasure to welcome you to the *5th Workshop on Evolutionary Computation for the Automated Design of Algorithms (ECADA'15)* associated with the *2015 Genetic and Evolutionary Computation Conference (GECCO'15)*. The ECADA workshop series explores the Automated Design of Algorithms employing hyper-heuristics, which are meta-heuristics applied to algorithm space, with an emphasis on hyper-heuristics of the evolutionary computation persuasion. Genetic Programming has most famously been employed to this end, but random search and iterative hill-climbing have both also successfully been employed to automatically design novel (components of) algorithms. Most recently, automatic configuration methods have been employed to automatically search the best design (the best configuration of components) of algorithms. All these methods have the advantage of producing solutions that are applicable to any instance of a specified problem domain, instead of a solution specifically produced for a single problem instance. This is particularly useful for real-world problem solving where one can afford a large amount of a priori computational time to subsequently efficiently solve many problem instances drawn from a specified problem domain.

The goals of this workshop are (1) to continue the success of its previous incarnations in building an active, engaged, and mutually supportive community of researchers interested in the use of hyper-heuristics for the automated design of algorithms, (2) to establish an international forum for the interchange of ideas related to hyper-heuristics, and (3) to provide a venue for the publication of high-quality papers on hyper-heuristics.

The call for papers has resulted in five accepted papers, all of which were reviewed by three paper specific domain experts. We thank the authors who submitted to this workshop and the reviewers who provided detailed critiques to help improve the papers and assist the workshop chairs in making accept/reject decisions. The topics covered by these papers spans a large range, namely:

- Cartesian Genetic Programming based hyper-heuristics for generating human-readable algorithms
- The automated design of genotype-phenotype mappings
- Synthesis of parallel iterative sorting algorithms employing multi-core Grammatical Evolution
- A study on the relationship between a hyper-heuristic's primitive space and its performance
- A comparison of Genetic Programming variants for hyper-heuristics

In addition to the five paper presentations, we plan to have an invited speaker. The workshop will conclude with a panel-led open discussion on the current challenges in the automated design of algorithms as well as future directions. We hope that you will find this program interesting as well as thought-provoking and look forward to your participation at ECADA'15 in Madrid, Spain!



John Woodward

ECADA'15 Co-Chair

University of Stirling, UK

Daniel Tauritz

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