We invite you to submit original, high quality technical papers (8 pages) and “poster-only” papers (2 pages) to the Search-Based Software Engineering (SBSE) track of the Genetic and Evolutionary Computation Conference (GECCO) 2018.

SBSE TRACK DESCRIPTION
Search-Based Software Engineering is the application of search algorithms and strategies to the solution of software engineering problems. Evolutionary computation is a foundation of SBSE, and since 2002 the SBSE track at GECCO has provided the unique opportunity to present SBSE research in the widest context of the evolutionary computation community. Last but not least, participating to the SBSE track and, more generally, to GECCO allows to be informed by advances in evolutionary computation, new cutting edge meta-heuristic ideas, novel search strategies, approaches and findings.

We invite papers that address problems in the software engineering domain through the use of heuristic search techniques. We particularly encourage papers demonstrating novel search strategies or the application of SBSE techniques to new problems in software engineering. Papers may also address the use of methods and techniques for improving the applicability and efficacy of search-based techniques when applied to software engineering problems. While empirical results are important, papers that do not contain strong empirical results - but instead present new sound approaches, concepts, or theory - are also very welcome. Moreover, this year for the first time we encourage the submission of both full papers and poster-only papers describing negative results as well as industrial reports on the practical use of search-based approaches. Moreover poster-only papers presenting frameworks/tools for search-based software engineering are also welcomed.

SCOPE
As an indication of the wide scope of the field, search techniques include, but are not limited to: Ant Colony Optimization, Automatic Algorithm configuration and Parameter Tuning, Estimation of Distribution Algorithms, Evolutionary Computation, Hybrid and Memetic Algorithms, Hyper-heuristics, Iterated Local Search, Simulated Annealing, Tabu Search.

The software engineering tasks to which they are applied are drawn from throughout the software lifecycle and include, but are not limited to: Automated Software Design and Hyper-Heuristics; Automatic Algorithm Selection and Configuration; Configuring Cloud-Based Architectures; Creating Recommendation Systems to Support Life Cycle (Software Requirement, Design, Development, Evolution and Maintenance, etc.); Developing Dynamic Service-Oriented Systems; Enabling Self-configuring/healing/optimizing Systems; Network Design and Monitoring; Optimizing Functional and Non-Functional Software Properties (Genetic Improvement); Predictive Modelling for Software Engineering Tasks; Project Management and Organization; Regression Test Optimization; Requirements Engineering; Software Evolution, Maintenance, Program Repair, Refactoring and Transformation; Software Security; System and Software Integration; Test Data Generation.

REVIEW PROCESS
Each paper submitted to the SBSE track will be rigorously evaluated in a double-blind review process. Paper evaluation at GECCO occurs on a per-track basis, ensuring high interest and expertise of the reviewers. Review criteria include significance of the work, technical soundness, novelty, clarity, writing quality, and sufficiency of information to permit replication, if applicable. All accepted papers will be published in the ACM Digital Library.

SPECIAL SECTION IN THE INFORMATION AND SOFTWARE TECHNOLOGY JOURNAL
The authors of best selected papers accepted in the SBSE track will be invited to submit an extended version of their paper for a special section in the Elsevier Journal of Information and Software Technology (IST).

KEY DATES
Abstract Submission: 30th January 2018
Paper Submission: 6th February 2018

CHAIRS
Federica Sarro (f.sarro@ucl.ac.uk)
Senior Lecturer (Associate Professor)
Department of Computer Science, University College London, UK

Giuliano Antoniol (antoniol@ieee.org)
Professor of Software Engineering
Department of Computer and Software Engineering of the Polytechnique Montreal

Looking forward to seeing you in the beautiful Kyoto!

Kyoto, Japan
July 15-19, 2018
Genetic and Evolutionary Computation Conference (GECCO)
A Recombination of the 27th International Conference on Genetic Algorithms (ICGA)
and the 23rd Annual Genetic Programming Conference (GP)
http://gecco-2018.sigevo.org