**Message from SBST 2019 Program Chairs**

Welcome to the 12th edition of the International Workshop on Search-Based Software Testing (SBST). There is a growing realization that optimization techniques can be applied to many aspects of the software development process: a research area known as Search-Based Software Engineering (SBSE). Search-Based Software Testing – one of the largest research areas within SBSE – is the process of using search-based optimization algorithms to specifically address problems in software testing. SBST has been applied to a wide variety of testing goals including structural, functional, non-functional and state-based properties. Many approaches to testing and a wide diverse range of development domains have been addressed, including exceptions, interactions, integration, mutation, regression, and web applications.

Work in SBST has developed to the point at which it is now ripe for combination with other areas of software engineering. The common “lingua franca” that makes these combinations possible is the definition of the fitness function that guides a search algorithm. A fitness function is merely a form of a metric, and metrics exist across the entire software engineering spectrum. Therefore, the central objective of this workshop is to bring together researchers and industrial practitioners from SBST and the wider software engineering community to share experience and provide directions for future research, and to encourage the use of search techniques to combine aspects of testing with other aspects of the software engineering lifecycle.

The 12th edition of SBST is a one-day workshop co-located with the 41st ACM/IEEE International Conference on Software Engineering (ICSE) which takes place in Montréal, Canada in May 2019. The workshop program contains two keynote talks by Dr. Shiva Nejati from the SnT Center, University of Luxembourg, Luxembourg, on “*Testing Cyber-Physical Systems via Evolutionary Algorithms and Machine Learning*” and Dr. Shin Yoo from the Korea Advanced Institute of Science and Technology, Republic of Korea, on “*SBST in the age of AI Systems - Challenges Ahead*”. The workshop will also host a tutorial by Nadia Alshahwan from Facebook Sapienz Team. The workshop received a total of 8 short paper submissions of which 6 have been accepted for presentation at the workshop. Moreover, 4 tools participated in the unit testing tool competition.

We would like to thank all authors and attendees for their contributions and active participation at SBST 2019. We also wish to thank the distinguished invited keynote speakers Dr. Shiva Nejati and Dr. Shin Yoo for sharing with the SBST community their cutting-edge research and valuable insights. We are grateful to the members of the Program Committee for their effort in making the workshop possible. We would like to thank the members of the SBST Steering Committee for their sustained support. Thanks to the ICSE Workshop Chairs for guiding and supporting us in the organization of the workshop, too.

Sincerely,

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| Alessandra Gorla  IMDEA Software, Madrid, Spain | José Miguel Rojas  University of Leicester, UK |