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# Genetic Programming

15th European Conference, EuroGP 2012  
Málaga, Spain, April 11-13, 2012  
Proceedings

## Volume Editors

Alberto Moraglio

University of Birmingham, School of Computer Science  
Edgbaston, Birmingham B15 2TT, UK  
E-mail: a.moraglio@cs.bham.ac.uk

Sara Silva

INESC-ID Lisboa, Rua Alves Redol 9, 1000-029 Lisboa, Portugal  
E-mail: sara@kdbio.inesc-id.pt

Krzysztof Krawiec

Poznań University of Technology, Institute of Computing Science  
Piotrowo 2, 60-965, Poznań, Poland  
E-mail: krawiec@cs.put.poznan.pl

Penousal Machado

University of Coimbra, Department of Informatics Engineering  
Pólo II - Pinhal de Marrocos, 3030-290 Coimbra, Portugal  
E-mail: machado@dei.uc.pt

Carlos Cotta

Universidad de Málaga, ETSI Informática  
Campus de Teatinos, 29071 Málaga, Spain  
E-mail: ccottap@lcc.uma.es

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# Preface

The 15th European Conference on Genetic Programming (EuroGP) took place during April 11–13, 2012 in the historical city of Málaga, in southern Spain, a delightful place for the conference. Being the only conference exclusively devoted to genetic programming and the evolutionary generation of computer programs, EuroGP attracts scholars from all over the world.

The unique character of genetic programming has been recognized from its very beginning. Presently, with over 7000 articles in the online GP bibliography maintained by Bill Langdon, it is clearly a mature form of evolutionary computation. EuroGP has had an essential impact on the success of the field, by serving as an important forum for expressing new ideas, meeting, and starting up collaborations. Many are the success stories witnessed by the now 15 editions of EuroGP. To date, genetic programming is essentially the only approach that has demonstrated the ability to automatically generate and repair computer code in a wide variety of problem areas. It is also one of the leading methodologies that can be used to ‘automate’ science, helping researchers to find hidden complex models behind observed phenomena. Furthermore, genetic programming has been applied to many problems of practical significance, and has produced human-competitive solutions.

EuroGP 2012 received 46 submissions from 21 different countries across four continents. The papers underwent a rigorous double-blind peer-review process, each being reviewed by at least three members of the international Program Committee from 23 countries. The selection process resulted in this volume, with 18 papers accepted for oral presentation (39% acceptance rate) and five for poster presentation (50% global acceptance rate for talks and posters combined). The wide range of topics in this volume reflects the current state of research in the field, including different genres of genetic programming (tree-based, grammar-based, Cartesian), theory, novel operators, and applications.

Together with four other co-located evolutionary computation conferences, EvoCOP 2012, EvoBIO 2012, EvoMusArt 2012, and EvoApplications 2012, EuroGP 2012 was part of the Evo\* 2012 event. This meeting could not have taken place without the help of many people.

First to be thanked is the great community of researchers and practitioners who contributed to the conference by both submitting their work and reviewing others’ as part of the Program Committee. Their hard work, in evolutionary terms, provided both variation and selection, without which progress in the field would not be possible!

The papers were submitted, reviewed, and selected using the MyReview conference management software. We are sincerely grateful to Marc Schoenauer of INRIA, France, for his great assistance in providing, hosting, and managing the software.

We would like also to thank the local organizer Carlos Cotta and the CAESIUM group of the University of Málaga, and the following local sponsors of Evo\*: University of Málaga, in particular the School of Computer Science and the School of Telecommunications, and respective Directors Professor José M. Troya and Professor Antonio Puerta, as well as the Málaga Convention Bureau.

We thank Penousal Machado of the University of Coimbra, assisted by Pedro Miguel Cruz, for creating and maintaining the official Evo\* 2012 website, and Miguel Nicolau of University College Dublin, for refurbishing the software tools used to produce this volume.

We especially want to express our genuine gratitude to Jennifer Willies of the Institute for Informatics and Digital Innovation at Edinburgh Napier University, UK. Her dedicated and continued involvement in Evo\* since 1998 has been and remains essential for building the image, status, and unique atmosphere of this series of events.

April 2012

Alberto Moraglio  
Sara Silva  
Krzysztof Krawiec  
Penousal Machado  
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