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# Genetic Programming

4th European Conference, EuroGP 2001  
Lake Como, Italy, April 18-20, 2001  
Proceedings



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# Preface

In this volume are the proceedings of the fourth European conference on Genetic Programming (EuroGP 2001) which took place at Lake Como in Italy on April, 18–20 2001. EuroGP has become firmly established as the premier European event devoted to Genetic Programming. EuroGP began life in 1998 as an international workshop and was held in Paris (14–15 April, LNCS 1391). After that it was held in Göteborg, Sweden (26–27 May 1999, LNCS 1598). Its first appearance as a conference was last year in Edinburgh in Scotland (15–16 April, LNCS 1802). Each year EuroGP has been co-located with a series of specialist workshops (LNCS 1468, 1596, 1803). This year was no exception and EvoWorkshops 2001 were also held at Lake Como (18–19 April, LNCS 2037).

Genetic Programming (GP) refers to a branch of Evolutionary Computation in which computer programs are automatically generated over a period of time using a process that mimics Darwinian evolution. The 30 papers in these proceedings more than amply demonstrate the wide and varied applicability of GP. There are papers that apply GP to robotics, artificial retina, character recognition, financial prediction, digital filter and electronic circuit design, image processing, data fusion, and biosequencing. In addition there are many papers that address foundational and theoretical issues.

A rigorous double-blind refereeing system was applied to the 42 submitted papers. This resulted in 17 plenary talks (40% of those submitted) and 13 research posters. Every submitted paper was reviewed by a minimum of two members of the International Program Committee, and if there was disagreement by a third reviewer. The Program Committee was carefully selected for their knowledge and expertise, and, as far as possible, papers were matched with the reviewers' particular interests and specialist expertise. The results of this process are seen here in the high quality of papers published within this volume. Many of these are by internationally recognised researchers.

The 30 published papers came from many European countries with a noticeable proportion from the Americas.

We would like to express our sincere thanks especially to the two internationally renowned invited speakers who gave keynote talks at the conference: Professor Enrico Coen of the John Innes Centre, UK and Professor Lee Altenberg of the University of Hawaii at Manoa. Professor Coen's talk was also shared with EvoWorkshops 2001. We would also like to thank Dr. Riccardo Poli of the School of Computer Science at the University of Birmingham for kindly agreeing to give a tutorial on GP.

This conference would have been considerably poorer without the support of many people. Firstly we would like to thank the very busy members of the Program Committee for their diligence, patience, and dedication in the task of providing high quality reviews. We would also like to thank EvoNET, the Net-

work of Excellence in Evolutionary Computing, for their support, in particular, Jennifer Willies and Chris Osborne for their help, especially their sterling work on the registration and the conference web site. Thanks also to Chris Osborne and Mij Kelly for their assistance with the production of the conference poster. Finally we would like to thank the members of EvoGP, the EvoNET working group on Genetic Programming.

April 2001      Julian Miller, Marco Tomassini, Pier Luca Lanzi, Conor Ryan,  
Andrea G.B. Tettamanzi, William B. Langdon

# Organisation

EuroGP 2001 was organised by EvoGP, the EvoNet Working Group on Genetic Programming.

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