

# Riccardo Poli's Curriculum Vitae

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## Synopsis

**Born:** May 31, 1961                      **Nationality:** Italian                      **Resident:** United Kingdom

**Work Address:** School of Computer Science and Electronic Engineering, University of Essex, Wivenhoe Park, Colchester CO4 3SQ, UK.

**Email:** rpoli@essex.ac.uk                      **Homepage:** <http://dces.essex.ac.uk/staff/rpoli/>

**Research Interests:** Brain Computer Interfaces, Biomedical Engineering, Bio-inspired Artificial Intelligence and Machine Learning (including Evolutionary Computation, Neural Networks, Genetic Programming, Swarm Algorithms), Computer Vision.

**Academic Qualifications:** In 1993, PhD on Computer Vision Systems for Medical Images (awarded the prize for the best Italian PhD thesis in Biomedical Engineering), University of Florence, Italy. In 1989, Laurea in Electronic Engineering with Biomedical Engineering specialisation (*Summa Cum Laude*), University of Florence, Italy.

**Employment:** 2001–present Full Professor of Computer Science, School of Computer Science and Electronic Engineering, University of Essex, UK; 1999–2001 Reader in Evolutionary and Emergent Behaviour, Intelligence, and Computation, School of Computer Science, Birmingham University, UK; 1994–1999 Lecturer in Artificial Intelligence (same institution); 1993–1994 Research Fellow, Department of Electronic Engineering, University of Florence, Italy. 1992–1994 consultant Advantage Medical Research, Florence, Italy.

**Teaching:** *Current:* Large-Scale Software Systems and Extreme Programming; Evolutionary Computation and Genetic Programming. *Past:* Genetic Programming and its Applications; Procedural Programming and Mathematics for Engineering; Intelligent Problem Solving; AI Programming; Evolutionary Computation; Image Understanding; Introduction to AI and Cognitive Science; AI Elective; Neural Networks; Computer Vision; Special Topics in Artificial Intelligence.

**Supervision:** *Current:* 4 full-time PhD students. *Past:* 16 PhD students (all completed).

**Grants:** 31, approximately worth £2.9 million.

**Publications (1989–present):** 2 authored books, 21 edited books/special issues, 23 chapters of books, 66 journal articles and 213 conference/workshop papers for a total of 325 refereed publications.

**External Recognition:** Currently associate editor of one international journal and advisory board member of another (previously associate editor of three more journals); tutorial/keynote speaker at 30 international conferences and Summer schools; programme committee member of approximately 80 international workshops and conferences; reviewer for 15 journals; fellow of the International Society for Genetic and Evolutionary Computation (ACM's SIG-EVO since 2005); member of ACM's SIG-EVO executive committee (2007-2013); recipient of EvoStar award for Outstanding Contributions to the Field of Evolutionary Computation; organiser and/or technical chair of 18 international events; winner of best PhD, 7 best paper and one best software awards; invited seminars in major UK universities and abroad; external examiner for 14 PhDs in the UK and abroad; college member for Engineering and Physical Sciences Research Council (EPSRC); international assessor for grant proposal.

## 1 Academic Career

**2001–present** Professor of Computer Science, School of Computer Science and Electronic Engineering, University of Essex, UK.

**1999–2001** Reader in Evolutionary and Emergent Behaviour Intelligence and Computation, School of Computer Science, University of Birmingham, UK.

**1994–1999** Lecturer in Artificial Intelligence, School of Computer Science, University of Birmingham, UK.

**1993–1994** Research fellow, Department of Electronic Engineering, University of Florence (Italy).

**1993** PhD in Biomedical Engineering (awarded the prize for the best Italian PhD thesis in the field), University of Florence, Italy. Thesis title: *Computer Vision Systems for Medical Images: Theory, Methods and Applications*.

**1992–1994** Advantage Medical Research, Florence, Italy: part-time consultant on neural networks and digital signal processing for “DayPress” project.

**1992–1993** Contract consultant, Department of Electronic Engineering, University of Florence.

**1989** Laurea in Electronic Engineering with Summa Cum Laude, University of Florence, Italy. Thesis topic: an expert system for the analysis of blood vessels in X-ray images.

## 2 Teaching and Administration

I’ve taught the following courses at UG and PG level: Large-Scale Software Systems and Extreme Programming (current), Evolutionary Computation and Genetic Programming (current), Genetic programming and its applications, Procedural Programming and Mathematics for Engineering, Intelligent Problem Solving, Special topics, A Practical Introduction to AI, Introduction to AI and Cognitive Science, AI programming and Evolutionary Computation.

I am the Director for Postgraduate Studies in the School of Computer Science and Electronic Engineering at Essex (on study leave for two terms) and have (or have been): member of the Department Strategy Group, member of the Research Strategy Group, member of the Postgraduate Degree Schemes Management Committee, member of the Research Student Progress Committee, member of the Postgraduate Curriculum Committee, member of the University’s Senate Staffing Committee, member of the Curriculum Strategy Committee, the advisory/supervisory board of tens of PhD students, course director for the BEng/MEng in Electronic and Software Engineering, and chair of the Research Committee.

## 3 External Recognition

**“Particle Swarm Optimisation”** My 2007 invited review article with Jim Kennedy and Tim Blackwell for the first issue of the Swarm Intelligence journal has become a classic reference in the field (906 citations in Google Scholar).

**“Foundations of Genetic Programming”** This 2002 book was the first and so far only book devoted to the theoretical foundations of genetic programming. It is well cited (720 citations in Google Scholar) and is in the reading list for many university courses worldwide.

**“A Field Guide to Genetic Programming”** This 2008 book provided an overview of the field of genetic programming. It is highly cited (760 citations in Google Scholar in 6 years) and has been adopted as a textbook in numerous university courses worldwide.

**ACM SIG-EVO** Was an elected member of SIG-EVO's executive committee (2007-2013).

**ISGEC Fellowship** In June 2003 I was elected by my peers a *Fellow of International Society for Genetic and Evolutionary Computation* "in recognition of sustained and significant contribution to the field and the community" [from the Fellow plaque].

**EvoStar Prize** EvoStar is a composite European event including three European conferences (EuroGP, EvoCOP and EvoBio) and eight European workshops. In 2007 I received the EvoStar award for Outstanding Contributions to the Field of Evolutionary Computation.

**Programme committee membership:** Portuguese conference on Artificial Intelligence 1995; Second (1997), Third (1998) and Fourth (1999) Online World Conference on Soft Computing; Genetic Programming Conference 1997 and 1998; AISB Workshops on Evolutionary Computation 1997; Foundations of Genetic Algorithms (FOGA-5) Workshop 1998; EuroGP'98 (First European Workshop on Genetic Programming); Parallel Problem Solving from Nature (PPSN'98); EuroGP'99; EvoIASP'99 (the first European workshop on Evolutionary Image Analysis and Signal Processing); Genetic and Evolutionary Computation Conference (GECCO'99); GECCO'99 Workshop on Foundations of Genetic Programming; GECCO'99 Workshop on Methodology, Pedagogy and Philosophy; IEEE Congress on Evolutionary Computation (CEC'99); Third International Conference on Knowledge-based Intelligent Information Engineering Systems (KES'99); Third International Conference on Evolvable Systems: From Biology to Hardware (ICES2000); The First International Workshop on Computational Intelligence in Economics and Finance (CIEF 2000); EuroGP 2000; EvoIASP 2000; Foundations of Genetic Algorithms (FOGA-6) Workshop 2000; GECCO 2000; CEC 2000; PPSN 2000; EuroGP 2001; EvoIASP 2001; CEC 2001; GECCO-2001; CEC 2002; PPSN 2002; EuroGP 2002; GECCO 2002; EvoIASP 2002; UK-CI 2002; FOGA-7 (2002); Irish Conference on Artificial Intelligence and Cognitive Science (AICS) 2002; EuroGP 2003; EvoIASP 2003; GECCO 2003; Towards Intelligent Mobile Robots (TIMR) 2003; EvoIASP 2004; EuroGP 2004; EvoIASP 2005; EuroGP 2005; FOGA 2005; European Conference on Artificial Life (ECAL) 2005; International Workshop on Parallel Bioinspired Algorithms 2005; GECCO 2005; CEC 2005; Giornata di Studio Italiana di Calcolo Evoluzionario (GSICE) workshop 2005; Genetic Programming Theory and Practice (GPTP) workshop 2005; Foundations of Genetic Algorithms (FOGA) 2005 EuroGP 2006; Workshop on Evolutionary Computation of the European Conference on Artificial Intelligence (EC)<sup>2</sup>AI 2006; FOGA 2007; GPTP 2007; Fourth International Conference on Fuzzy Systems and Knowledge Discovery (FSKD'07) to held in Haikou, China in August 2007; EvoIASP 2007; EuroGP 2007; EvoTheory 2008; EuroGP 2008; GPTP 2008; EuroGP 2009; GECCO 2009; EvoIASP 2009; Genetic and Evolutionary Computation Summit (GECS) 2009; GPTP 2009; EuroGP 2010; EvoIASP 2010; GECCO 2010; GPTP 2010; GPTP 2011; EvoIASP 2011; EuroGP 2011; FOGA 2011; Italian Workshop on Artificial Life and Evolutionary Computation (WIVACE) 2012; EuroGP 2012; EuroGP 2013; EvoIASP 2013; GECCO 2013; and a few more for 2014.

**Reviewer for:** IEEE Transactions on Evolutionary Computation, IEEE Transactions on Pattern Analysis and Machine Intelligence, IEEE Transactions on Neural Networks, Knowledge Engineering Review, IEEE Transactions on System Man and Cybernetics, Parallel Algorithms and Applications, Neurocomputing Journal, International Journal of System Science, Computational and Mathematical Organization Theory, Neural Computing & Applications, Trends in Genetics, Proceedings A of the Royal Society, International Journal of Neural Systems, Theoretical Computer Science C, Pattern Analysis and Applications, Journal of Neural Systems, Swarm Intelligence. Book proposal reviewer for Kluwer Academic Publishers.

**Editorial roles:** I have been an associate editor of the Evolutionary Computation Journal (MIT Press), the oldest journal in the field of evolutionary algorithms, for many years and became a member of the Advisory Board of the journal in 2009. I am also an associate editor of the Journal of Genetic Programming and Evolvable Machines (Kluwer/Springer). I was also an associate editor of Swarm

Intelligence (Springer) and of Applied Soft Computing (Elsevier), but resigned at the end of 2013 due to high load involved. I was a member of the advisory board of the Journal of Artificial Evolution and Applications (Hindawi). I was also a member of the editorial board of the International Journal of Applied Metaheuristic Computing. I've also edited a number of special issues in the following journals: the EURASIP Journal of Applied Signal Processing, Evolutionary Computation, Journal of Artificial Evolution and Applications, Swarm Intelligence, Theoretical Computer Science series C, Natural Computing, Genetic Programming and Evolvable Machines.

**Conference/Workshop Chair** I was a programme co-chair of EUROGP'98 and EuroGP'99, the first and second European Workshops on Genetic Programming (held in Paris and Goteborg). I was programme co-chair of EuroGP 2000, which was then turned into an international conference (of which I am a member of the steering committee). Also, I co-chaired EvoIASP'99 and the Foundations of Genetic Programming (FOGP'99) Workshop of the GECCO'99 conference, the largest conference in evolutionary computation. I co-chaired the Dynamics of Evolutionary Algorithms Workshop at GECCO-2002. I was programme chair at GECCO 2002 for the genetic programming track. I was programme co-chair for the prestigious and highly selective Foundations of Genetic Algorithms (FOGA) 2002 workshop. I was local chair at EuroGP 2003, which was held at Essex. I was the general chair for GECCO 2004 held in Seattle. I was the first non-US chair ever for this conference. The conference included 16 workshops, 13 tracks, 32 tutorials, over 450 papers submitted and reviewed through 14 track chairs and over 350 reviewers. The conference was financially very successful. I was part of the conference's business committee for the 2005 edition of GECCO. This advisory body is responsible for all the decisions of major financial relevance. I was competition chair for GECCO 2006, technical co-chair of the IEEE-sponsored ANTS (Ant Colony Optimisation and Swarm Intelligence) 2006, and a co-chair of the workshop of the Parallel Problem Solving from Nature (PPSN) conference 2006 on Bridging Theory and Practice in Evolutionary Algorithm Research. I was programme chair at GECCO 2007 for the genetic programming track, and a co-organiser of the GECCO 2007 workshop on "Particle Swarms: the Second Decade". I was programme co-chair at GECCO 2009 for the Theory track. I was the chair of the Graduate Student workshop at GECCO 2010.

**Tutorials** PPSN'98, GECCO 2000–2003 and 2006–2010, EuroGP 2001, IEEE Congress on Evolutionary Computation (CEC) 2001, 2004, 2007 and 2009, Multidisciplinary International Conference on Scheduling: Theory and Applications (MISTA 2003), Italian Artificial Intelligence (AI\*IA 2005), Genetic and Evolutionary Computation Summit 2009.

**Keynotes** Workshop on Hyperheuristics of the Parallel Problem Solving from Nature (PPSN) conference 2008, 2nd International Symposium on Search Based Software Engineering 2010, Italian Workshop on Artificial Life and Evolutionary Computation (WIVACE) 2012, 19th International Conference on Soft Computing (MENDEL) 2013, IEEE/AT-EQUAL Workshop on Human-Machine Systems, Cyborgs and Enhancing Devices (part of the IEEE Systems Man and Cybernetics conference) 2013.

**School/Summer Schools** I was one of the senior tutors at the COIL (Computational Intelligence and Learning) summer school in Limerick, Ireland (Aug 2000). I've been invited to Dagstuhl Schools on the Theory of Evolutionary Computation (2000, 2002, 2004, 2006, 2008, 2010, 2013), taking part in four. I have been a senior tutor at the EvoNet summer school on evolutionary computation held in Parma (Italy) in the Summer 2003. I have also given a tutorial on genetic programming at an international Summer School in Erice Italy in 2004. I have given a tutorial on GP in the 3rd BCS Summer School on Pattern Recognition in July 2005.

**Awards** Best PhD thesis award. EuroGP 2001 best paper award (for my work with Nic McPhee on the schema theory for genetic programming). EvoIASP 2003 best paper award (with Marcos Quintana and Ela Claridge). Best Academic Standard Award for EEBIC Group and runner-up Best Overall Paper Award, the 2nd On-line Word Conference on Soft Computing in Engineering Design and Manufacturing. Runner up for best paper awards at GECCO 2002 and EuroGP 2003. My implementation

of genetic programming won the TinyGP competition of the Genetic and Evolutionary Computation Conference (GECCO-2004), Seattle, USA, June 26-30 2004. Best paper award at the “Giornata di Studio Italiana di Calcolo Evoluzionistico” (GSICE) workshop of the Italian Artificial Intelligence (AI\*IA 2005) conference. Best Paper Awards at the European Conference on Genetic Programming (EuroGP2007) and the European Workshop on Evolutionary Image Analysis and Signal Processing (EvoIASP2007). Best paper award for GECCO’s 2007 Genetic Algorithms track (the largest). Best paper award for GECCO’s 2008 Genetic Programming track. Also, I’ve had many nominations for best paper awards over the years. Additionally, as mentioned above, I also won the EvoStar award.

**External Examiner** I have been the external examiner of 14 PhD students at University College London, Bristol, City University London, University of Kent, Coventry, Universidad de Extremadura (Spain), Switzerland (University of Lausanne), Nottingham, York, Ireland (Limerick), Goldsmith College, University of Coimbra, Universitat Ramon Llull (Barcelona).

**Grant Proposal Assessor** I am a college member for Engineering and Physical Sciences Research Council. I was an expert reviewer for the EU Cognitive Systems initiative. I have also refereed grant proposals for the Italian, Swiss and Irish governments.

**Citations/Bibliometrics** Google Scholar indicates that I’m one of the most cited authors in several disciplines and that have an H-index (widely used index of research impact) of 51 and over 10,000 citations overall (<http://scholar.google.co.uk/citations?user=fNVNLBcAAAAJ&hl=en>). I’m in Prof Palsberg’s list of the 600 computer scientists with the highest H-index ever (<http://www.cs.ucla.edu/~palsberg/h-number.html>). This list includes many Nobel Laureates, Turing Award winners, and IEEE and ACM Fellows. In addition, I am in the list of the most prolific authors in DBLP (one of the largest computer science bibliographies) with 203 publications (see <http://www.informatik.uni-trier.de/~ley/db/indices/a-tree/prolific/index.html>). I’m also one of the top three authors in the Genetic Programming Bibliography (first for number of co-authored publications, third in weighted order) at <http://www.cs.bham.ac.uk/~wbl/biblio/gp-html/index.html>. Microsoft Academic Search places me at the 6th position in the list of the top authors in Artificial Intelligence in the last 10 years based on citations (<http://academic.research.microsoft.com/RankList?entitytype=2&topdomainid=2&subdomainid=5&last=10&orderby=1>).

**Other** I have been the assessor for tenure and promotion for many US and European universities. I’m also a regular assessor for cases of promotion for UK universities. I have been guest of the Santa Fe institute of complex systems and gave a seminar there in July 2000. I have been a panel member and judge in the student workshop at GECCO 2000, 2001, 2002, 2003 and 2005. I was also a panel member at the workshop on standards at GECCO 2002. I was invited by Prof Chris Stephens to do research for one week and give a seminar on genetic programming at UNAM in Mexico City, the largest university in the world, in September 2003. I’ve been a judge for the Human-competitive Results competition (endowed with a total of \$ 10,000 in prizes) at GECCO 2004, 2005, 2006, 2007, 2008, 2009 and 2010. Over the years I’ve also been a panelist in a number of occasions at the EuroGP conference.

## 4 Grants

In my career I have contributed to securing 31 grants for a total of around £2.9M. Below I list the grants I obtained:

**2013–2017** DSTL National PhD grant “Improving group decision making with collaborative Brain Computer Interfaces” (PI, £161,312).

**2012–2013** Engineering and Physical Sciences Research Council (EPSRC) grant “Global - engagement with NASA JPL and ESA in Robotics, Brain Computer Interfaces, and Secure Adaptive Systems for Space Applications RoBoSAS” (Co-I, £473,812).

- 2012–2013** Ageing and Assisted Living Seedcorn Fund of the Faculty of Science and Engineering for a project entitled “A preliminary exploration of the possibility of reducing tremor in patients affected by Parkinson’s disease via entrainment and brain computer interfaces” (PI, £4,600).
- 2012** A departmental Research Innovation Fund grant for the development of a USB event tracker for BCI experiments (PI, £4,800).
- 2008–2011** Engineering and Physical Sciences Research Council (EPSRC) grant “Analogue Evolutionary Brain Computer Interfaces”, (PI, £364,770). Two post-docs.
- 2011** A departmental Research Innovation Fund grant for preliminary research on communication (PI, £3,751).
- 2010** A departmental Research Innovation Fund grant for preliminary research on sleep (PI, £4,195).
- 2010** A departmental Research Innovation Fund grant to extend the aforementioned preliminary research on sleep (PI, £2,823).
- 2005–2008** EPSRC joint grant with Nottingham, “An investigation of the role of Genetic Programming in a Hyper-Heuristic Framework”, total value approx £470,000 (PI, £247,000 for Essex). I was also a co-investigator in the Nottingham side of the grant.
- 2008** EPSRC Visiting Fellowship “Bringing contemporary biology into Evolutionary Computation: Plasticity, hierarchy, and genetic re-use” (PI, £39,000).
- 2008** 5 day research consultancy for QinetiQ (formerly known as DERA — Defence and Evaluation and Research Agency) on the application of Particle Swarm Optimisers in the analysis of social networks in relation to defence strategy (£7,500).
- 2005–2007** Leverhulme visiting professorship (for Prof Chris Stephens), approx £22,000.
- 2005–2007** SRIF 3 funding of £274,000 for equipment and refurbishment of brain computer interfaces laboratory (co-PI).
- 2004–2007** A multi-site EPSRC grant entitled “Extended Particle Swarms” for over £980,000 (of which around £280,000 for Essex) plus an indirect contribution of £70,000 from BT Exact. This project involves physicists, mathematicians, biologists and computer scientists at the 5 sites, and also 6 international leaders in the area of swarm intelligence. I’m the PI at Essex and the coordinator for the whole proposal. This project is the result of membership of the EPSRC cluster on Novel Computation in Swarm Intelligence.
- 2001–2006** EPSRC Master Training Programme (with X. Yao and J. Miller, grant GR/N29969/01, £534,923) for an MSc in Natural Computation at Birmingham. Co-investigator.
- 2006** European Space Agency ARIADNA (interaction with European universities on advanced research topics) grant, EUR 15,000 (co-PI), 2 month pilot study entitled “Critical review and future perspectives of non-invasive brain-machine interfaces” jointly held with Università Campus Biomedico (Rome) and Scuola Superiore Sant’Anna (Pisa).
- 2006** Research Promotion Fund grant on Advanced Evolutionary Methods for Learning Finite State Machines (£5,000). Co-principal investigator.
- 2005** EPSRC visiting fellowship: “Coarse Grain in Complex Adaptive Systems” (for Prof. Chris Stephens), approx £45,000.
- 2003–2004** Leverhulme Trust Visiting Fellowship (£15,320) which paid for one of my ex-PhD students, Dr Joao Pujol from Brazil, to spend 10 months here at Essex working with me on a genetic-programming-based parameter mapping approach to optimisation problems. Principal investigator.

- 2003–2004** Essex University Research Promotion Fund grant to build up Brain Computer Interface research at Essex (with Lakany, Sepulveda and Gan, approx £3,900). This paid for a PhD student acting as a part time research assistant.
- 2004** \$10,000 grant from the Air Force Office of Scientific Research to support travel studentships for GECCO 2004.
- 2003** Royal Society travel grant (approx £1,100)
- 2003** Membership of EPSRC cluster on Novel Computation in Swarm Intelligence (refunded travel expenses for myself and collaborators, approx £700).
- 2003** Departmental pump priming to purchase equipment for Brain Computer Interface research (with Lakany, Sepulveda and Gan, approx £3,000)
- 2002** EPSRC visiting fellowship on the Theory of Evolutionary Computation (GR/R47394/01, £39,149). Co-investigator.
- 2002** Research Promotion Fund for completion of an EPSRC grant proposal (£500). Principal investigator.
- 2001** Royal Society visiting fellowship (£1,500)
- 1996–1998** Defence and Evaluation and Research Agency (DERA) Malvern (grant CSM/428/UA, £89,000), including equipment and a research fellow, for fundamental research on evolutionary computation and its role in the design of autonomous intelligent agents. Principal investigator.
- 1996–1998** British-Council/MURST CRUI (travel grant ROM/889/95/87, approx £3,000) for a long-distance collaboration with the University of Florence on evolutionary techniques for image analysis
- 1995** 5-day consultancy on Evolutionary Algorithms for Defence and Evaluation Research Agency (DERA) (£1,500)
- 1995** Faculty of Science pilot grant for research on evolutionary computation (£1,500)

## 5 Publications

### 5.1 Authored Books

1. Riccardo Poli, William B. Langdon and Nicholas Freitag McPhee, *A Field Guide to Genetic Programming*, Lulu.com, freely available under Creative Commons Licence from [www.gp-field-guide.org.uk](http://www.gp-field-guide.org.uk), March 2008.
2. William B. Langdon and Riccardo Poli, *Foundations of Genetic Programming*, Springer, February 2002. (Second edition March 2005.)

### 5.2 Edited Books and Journal Special Issues

1. Julian Miller and Riccardo Poli (eds.), Special issue entitled “10 years of Genetic Programming and Evolvable Machines” for the tenth anniversary of the Genetic Programming and Evolvable Machines journal, issues 3 and 4, 2010
2. Eric Bonabeau, David Corne and Riccardo Poli, Swarm intelligence: the state of the art, special issue of Natural Computing, volume 9, issue 3, 2010.
3. Eric Bonabeau, David Corne, Joshua Knowles and Riccardo Poli, Swarm Intelligence Theory: A Snapshot of the State of the Art, special issue of the Theoretical Computer Science series C (TCS-C), Volume 411, Issue 21, Pages 2079-2154 (6 May 2010)

4. Günther Raidl, Riccardo Poli, et al., editors, *GECCO 2009: Proceedings of the 11th annual Conference on Genetic and Evolutionary Computation*, ACM Press, Boston, July 2009
5. Riccardo Poli, Jim Kennedy and Andries Engelbrecht, special issue on “Particle Swarm Optimisation” of the *Swarm Intelligence Journal*, Volume 3, Number 4, December 2009.
6. R. Poli, J. Kennedy, T. Blackwell and A. Freitas, guest editors, Special Issue on “Particle Swarm Optimisation: the second decade” of the *Journal of Artificial Evolution and Applications*, Feb 2008.
7. Y. Borenstein, T. Jansen, R. Poli, Special Issue of the *Evolutionary Computation Journal* (MIT Press) on Bridging Theory and Practice in Evolutionary Algorithm Research, Winter 2007.
8. D. Thierens, H. Lipson, J. Branke, K. Sastry, R. Poli, et al., editors, *GECCO 2007: Proceedings of the 9th annual conference on Genetic and evolutionary computation*, London, 7-11 July 2007, ACM Press.
9. M. Dorigo, L. Gambardella, A. Martinoli, R. Poli and T. Stutzle, editors. *Proceedings of the Fifth International Workshop on Ant Colony Optimisation and Swarm Intelligence*, Springer, LNCS 4150, September, 2006.
10. R. Poli and M. Schoenauer, Special Issue of the *Evolutionary Computation Journal* (MIT Press) on the Best of *GECCO*, Issue 1 of 2006.
11. K. Deb, R. Poli *et al.*, editors. *Proceedings of the Genetic and Evolutionary Computation Conference (GECCO)*, Seattle, USA, June 2004, Springer Verlag.
12. Conor Ryan, Terrence Soule, Maarten Keijzer, Edward Tsang, Riccardo Poli and Ernesto Costa, editors. *Genetic Programming, Proceedings of the 6th European Conference, EuroGP*, LNCS, Essex, 14-16 April 2003. Springer-Verlag.
13. S. Cagnoni and R. Poli, editors, Special issue of the *EURASIP Journal of Applied Signal Processing* on Genetic and Evolutionary Computation for Signal Processing and Image Analysis, issue 8, July 2003.
14. K. De Jong, R. Poli and J. Rowe, *Proceedings of the Foundations of Genetic Algorithm (FOGA-7) Workshop*, Torremolinos, Spain, 3-5 September 2002, Morgan Kaufmann, 2003.
15. W. B. Langdon, E. Cantú-Paz, K. Mathias, R. Roy, D. Davis, R. Poli, K. Balakrishnan, V. Honavar, G. Rudolph, J. Wegener, L. Bull, M. A. Potter, A. C. Schultz, J. F. Miller, E. Burke and N. Jonoska, editors. *Proceedings of the Genetic and Evolutionary Computation Conference (GECCO)*, New York, USA, 8-13 July 2002, Morgan Kaufmann.
16. Stefano Cagnoni, Riccardo Poli, Yun Li, George Smith, David Corne, Martin Oates, Emma Hart, Pier Luca Lanzi, Egbert J.W. Boers, Ben Baechter, and Terence C. Fogarty, editors. *Real-world Applications of Evolutionary Computing: EvoWorkshops 2000*, LNCS, Edinburgh, 17 April 2000. Springer-Verlag.
17. Riccardo Poli, Wolfgang Banzhaf, William B. Langdon, Julian F. Miller, Peter Nordin and Terence C. Fogarty, editors. *Genetic Programming, Proceedings of EuroGP 2000*, LNCS, Edinburgh, 15-16 April 2000. Springer-Verlag.
18. D. Corne, M. Dorigo, F. Glover (Eds) and D. Dasgupta, P. Moscato, R. Poli and K. Price (Coordinating Editors), *New Ideas in Optimisation*, McGraw-Hill, 1999.
19. R. Poli, H.-M. Voigt, S. Cagnoni, D. Corne, G. Smith and T. Fogarty (Eds.), *Joint Proceedings of the First European Workshop on Evolutionary Image Analysis and Signal Processing - EvoIASP'99 and the First European Workshop on Evolutionary Computation in Telecommunications - EuroECTel'99*, Goteborg, May, 1999 Springer-Verlag.



20. R. Poli, P. Nordin, W. B. Langdon and T. Fogarty (Eds.), *Proceedings of the Second European Workshop on Genetic Programming – EuroGP’99*, Goteborg, May 26–27, 1999, Springer-Verlag.
21. W. Banzhaf, R. Poli, M. Schoenauer and T. Fogarty (Eds.), *Proceedings of the First European Workshop on Genetic Programming – EuroGP’98*, Paris, April 14–15, 1998, LNCS 1391, Springer-Verlag, Berlin, 1998.

### 5.3 Chapters of Books

1. Riccardo Poli and John Koza, Genetic Programming, book chapter in G. Kendal and E. Burke (eds), *Search Methodologies: Introductory Tutorials in Optimization and Decision Support Techniques*, second edition, Chapter 6, pp. 143–185, 2014.
2. Riccardo Poli and Nicholas Freitag McPhee, Parsimony Pressure Made Easy: Solving the Problem of Bloat in GP, in Yossi Borenstein and Alberto Moraglio (eds), *Theory and Principled Methods for Designing Metaheuristics*, Springer, Chapter 8, pp. 181–204, 2013.
3. Riccardo Poli, Mathew Salvaris, and Caterina Cinel, Evolution of an effective brain-computer interface mouse via genetic programming with adaptive Tarpeian bloat control, Chapter 5, in *Genetic Programming Theory and Practice IX*, pages 77- 96, Springer, 2011.
4. Leonardo Vanneschi and Riccardo Poli, Genetic Programming: Introduction, Applications, Theory and Open Issues, in Rozenberg, Grzegorz; Bäck, Thomas H.W.; Kok, Joost N. (Eds.), *Handbook Natural Computing*, Chapter 24, ISBN: 978-3-540-92909-3, January 31, 2011.
5. Riccardo Poli, Covariant Tarpeian Method for Bloat Control in Genetic Programming, R. Riolo, T. McConaghy, and E. Vladisvaveva (eds.), *Genetic Programming Theory and Practice VIII*, p. 71-90, 2010.
6. Luca Citi, Riccardo Poli, and Caterina Cinel, High-significance Averages of Event-related Potential via Genetic Programming, *Genetic Programming Theory and Practice VII*, Chapter 9, pages 135-157, Springer, 2009.
7. Riccardo Poli, Nicholas F. McPhee, Leonardo Vanneschi, Analysis of the Effects of Elitism on Bloat in Linear and Tree-based Genetic Programming, in Rick Riolo, Terence Soule and Bill Worzel (Eds.), *Genetic Programming Theory and Practice VI*, Chapter 7, Springer, November, 2008.
8. Mohamed Bader-El-Den and Riccardo Poli, Evolving Effective Incremental Solvers for SAT with a Hyper-heuristic Framework based on Genetic Programming, in Rick Riolo, Terence Soule and Bill Worzel (Eds.), *Genetic Programming Theory and Practice VI*, Chapter 11, Springer, November, 2008.
9. William B. Langdon, Riccardo Poli, Nicholas F. McPhee and John R. Koza. Genetic Programming: An Introduction and Tutorial, with a Survey of techniques and Applications. In John Fulcher and Lakhmi C. Jain editors, *Computational Intelligence: A Compendium*, volume 115 of *Studies in Computational Intelligence (SCI)*, chapter 22, pages 927-1030. Springer-Verlag, 2008.
10. Riccardo Poli and William B. Langdon, Efficient Markov chain model of machine code program execution and halting, In *Genetic Programming Theory and Practice IV*, Chapter 13, Springer, 2006 (published in March 2007, 16 pages).
11. Riccardo Poli and William B. Langdon, Running Genetic Programming Backward, In Tina Yu, Rick L. Riolo and Bill Worzel, editors. *Genetic Programming Theory and Practice III*, Chapter 9, pages 125–140, Springer, 2005.
12. John R. Koza and Riccardo Poli, Genetic Programming, In Edmund Burke and Graham Kendal, editors. *Search Methodologies: Introductory Tutorials in Optimization and Decision Support Techniques*, Chapter 5, Springer, 2005 (40 pages).

13. Christopher R. Stephens and Riccardo Poli, EC Theory – “In Theory”: Towards a Unification of Evolutionary Computation Theory, In Anil Menon, editor, *Frontiers of Evolutionary Computation*, Kluwer, Boston, MA, pages 129–156, 2004.
14. Riccardo Poli, Foreword, in Rick Riolo and Bill Worzel (eds), *Genetic Programming Theory and Practice Proceedings of the CSCS Workshop on Genetic Programming Theory and Practice*, Center for the Study of Complex Systems, University of Michigan, Ann Arbor, May 2003, Kluwer, Boston.
15. K. De Jong, R. Poli and J. Rowe, Editorial Introduction, in K. De Jong, R. Poli and J. Rowe (editors), *Proceedings of the Foundations of Genetic Algorithm (FOGA-7) Workshop*, Torremolinos, Spain, 3–5 September 2002, Morgan Kaufmann, 2003, pages 1–7.
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