

# Curriculum Vitae et Studiorum

## *Mario Francesco Pavone*

### **Informazioni Personali**

*Data e luogo di nascita:* 11 Dicembre 1974, Catania

*Indirizzo:*

*Ufficio:* Dipartimento di Matematica e Informatica  
Università degli Studi di Catania  
v.le A. Doria, 6  
95125 – Catania

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### **Titoli di Studio**

*Dottorato di Ricerca in  
Informatica:*

conseguito presso il Dipartimento di Matematica ed Informatica dell'Università degli studi di Catania il 16 Marzo 2004.

Titolo della Tesi di Dottorato: “Algoritmi Ispirati alla Biologia per Problemi di Partizionamento, Colorazione e Predizione della Struttura Nativa delle Proteine” (*Bio-inspired algorithms for partitioning, coloring and protein structure prediction problems*).

*Laurea in Scienze  
dell'Informazione:*

conseguita presso l'Università degli studi di Catania, il 8 Ottobre 1999, con la votazione di 110/110.

Titolo della tesi: “Grafì Planari: algoritmi per la verifica ed il disegno” (*Planar Graphs: Testing Algorithms and their Embedding*).

## **Posizione Accademica e di Ricerca**

1 Novembre 2018 — oggi: ***Professore Associato in Informatica (s.s.d. INF/01)***, Dipartimento di Matematica e Informatica, Università degli Studi di Catania, viale A. Doria, 6, 95125 Catania

1 Ottobre 2007 — 31 Ottobre 2018: ***Ricercatore confermato in Informatica (s.s.d. INF/01)***, Dipartimento di Matematica e Informatica, Università degli Studi di Catania, viale A. Doria, 6, 95125 Catania

24 – 28 Febbraio 2020: ***Visiting Professor for Teaching***, School of Engineering, Computing and Mathematics, University of Plymouth, Drake Circus, Plymouth, Devon PL4 8AA, UK.

1 Maggio 2018 – oggi: ***Vice-Chair of IEEE Task Force on Artificial Immune Systems*** per *IEEE Computational Intelligence Society* (<http://staff.ustc.edu.cn/~wjluo/ieee-cis-ais/>)

Maggio 2018: ***Co-Fondatore e Direttore Scientifico ANTs lab – Advanced New Technologies Research Laboratory*** (<https://www.ANTs-lab.it/>)

Giugno 2016: ***Visiting Professor with Fellowship***, LERIA, Faculty of Sciences, University of Angers, Angers, 2 Boulevard Lavoisier, 49045, France.

Febbraio 2015 – oggi: ***Vice-Chair of IEEE Task Force on Interdisciplinary Emergent Technologies*** per *Emergent Technologies Technical Committee* di *IEEE Computational Intelligence Society* (<http://iet-cis-ieee.weebly.com>)

Ottobre 2014: ***Visiting Professor***, School of Computing, University of Kent, Canterbury, Kent, CT2 7NZ, UK.

1 Maggio 2014 – 30 April 2018: ***Chair of IEEE Task Force on Artificial Immune Systems*** per *IEEE Computational Intelligence Society*

Gennaio 2014: vincitore abilitazione per ***Professore Associato 01/B1 (s.s.d. INF/01)***

2011: ***Co-Fondatore TaoSciences Research Centre*** (<http://www.taosciences.it/>)

Novembre 2009: ***Visiting Professor*** at the School of Computer Science, University of Nottingham, Jubilee Campus, Wollaton Road, NG8 1BB, Nottingham, UK (*2 weeks*)

2006: ***Visiting Researcher*** at *IBM-KAIST Bio-Computing Research Center*, Korea Advanced Institute of Science and Technology (KAIST), Department of Bio and Brain Engineering Systems, CHUNG Moon Soul Building, 373-1 Guseong-dong Yuseong-gu, Daejeon 305-701, Republic of KOREA

## **Attività Didattiche**

*Laboratorio di Intelligenza Artificiale* (3 CFU), corso di Laurea Magistrale in Informatica, Dipartimento di Matematica ed Informatica, Università degli Studi di Catania.

*Sistemi Operativi (M-Z)* (9 CFU), corso di Laurea Triennale in Informatica, Dipartimento di Matematica ed Informatica, Università degli Studi di Catania.

*Informatica* (5 CFU), corso di Laurea Magistrale in Odontoiatria e Protesi dentarie, Scuola “Facoltà di Medicina”, Università degli Studi di Catania

*Computazione Naturale e Bioispirata* (6 CFU), corso di Laurea Magistrale in Informatica, Dipartimento di Matematica ed Informatica, Università degli Studi di Catania.

*Laboratorio di Algoritmi (A-L & M-Z)* (3+3 CFU), corso di Laurea Triennale in Informatica, Dipartimento di Matematica ed Informatica, Università degli Studi di Catania.

*Laboratorio di Intelligenza Artificiale – Metaheuristics* (3 CFU), corso di Laurea Magistrale in Informatica, Dipartimento di Matematica ed Informatica, Università degli Studi di Catania.

*Intelligenza Artificiale - C.I. Scienze Cognitive* (3 CFU), corso di Laurea Magistrale in Psicologia, Dipartimento di Scienze della Formazione, Università degli Studi di Catania.

*Programmazione 1* (9 CFU), corso di Laurea Triennale in Informatica, Dipartimento di Matematica ed Informatica, Università degli Studi di Catania.

*Computazione Naturale* (9 CFU), corso di Laurea Magistrale in Informatica, Dipartimento di Matematica ed Informatica, Università degli Studi di Catania

*Informatica* (5 CFU), corso di Laurea Magistrale in Odontoiatria e Protesi dentarie, Scuola “Facoltà di Medicina”, Università degli Studi di Catania

*Ulteriori Abilità Informatiche* (3 CFU), corso di Laurea Magistrale in Matematica, Dipartimento di Matematica ed Informatica, Università degli Studi di Catania

*Laboratorio Latex* (3 CFU), corso di Laurea Triennale in Matematica, Dipartimento di Matematica ed Informatica, Università degli Studi di Catania

*Informatica* (2 CFU), corso di Laurea Magistrale in Medicina e Chirurgia, Scuola “Facoltà di Medicina”, Università degli Studi di Catania

*Algoritmi Evolutivi per la Sicurezza* (6 CFU), corso di Laurea Triennale in Informatica Applicata, Università degli Studi di Catania, sede di Comiso

*Sistemi Operativi* (6 CFU), corso di Laurea Triennale in Informatica Applicata, Università degli Studi di Catania, sede di Comiso

*Informatica* (6 CFU), corsi di Laurea Triennale in Matematica e in Matematica per le Applicazioni, Dipartimento di Matematica ed Informatica, Università degli Studi di Catania

*Informatica* (6 CFU), corso di Laurea Triennale in Scienze per la Comunicazione Internazionale, percorso artistico-letterario, Facoltà di Lingue e Letterature Straniere, Università degli Studi di Catania

*Programmazione 1* (6 CFU), corso di Laurea Triennale in Informatica Applicata, Università degli Studi di Catania, sede di Comiso

*Laboratorio di Programmazione 1* (6 CFU), corso di Laurea Triennale in Informatica Applicata, Università degli Studi di Catania, sede di Comiso

Corso integrativo di *Informatica* denominato “*Applicazioni di informatica allo studio delle lingue*”, per il corso di Laurea Triennale in Scienze per la Comunicazione Internazionale, Facoltà di Lingue e Letterature Straniere, Università degli Studi di Catania

*Laboratorio di Programmazione 1* (6 CFU) per il corso di Laurea Triennale in Informatica Applicata, Università degli Studi di Catania, sede di Comiso

*Informatica* (9 CFU), per il corso di Laurea Triennale in Scienze per la Comunicazione Internazionale, Facoltà di Lingue e Letterature Straniere dell'Università degli Studi di Catania

Contratto di tutorato per l'insegnamento di *Programmazione I e Laboratorio di Programmazione I*, Corso di Laurea Triennale in Informatica Applicata, collaborazione ad attività di ricerca del Centro di Ricerca IPPARI ed avvio delle attività del centro di calcolo del Corso di Laurea in Informatica Applicata, Università degli studi di Catania (periodo 01.11.2004 - 31.12.2004).

Collaborazione esterna su attività didattiche per il modulo di *Laboratorio di Programmazione I*, per il corso di Laurea in Informatica Applicata, Università degli Studi di Catania, sede di Comiso, AA. 2004/2005.

Contratto di collaborazione esterna su attività didattiche integrative a supporto del modulo di *Intelligenza Artificiale*, corso di Laurea in Informatica, Università degli Studi di Catania, AA. 2003/2004.

Collaborazione esterna su attività didattiche per il modulo di *Informatica*, corso di Laurea in Chimica e Chimica Industriale, Università degli Studi di Catania, AA. 2003/2004.

Collaborazione esterna su attività didattiche per il modulo di *Intelligenza Artificiale*, corso di Laurea in Informatica, Università degli Studi di Catania, AA. 2002/2003.

Contratto di insegnamento nel Corso di Formazione per “*Esperto in Gestione Telematica dei Beni Culturali ed Ambientali*” – progetto n. 1999/IT.16.1PO.011/2.04/7.2.4/045, modulo “1-C Informatica” (36 ore), per conto di “Consorzio Sistema Città Territorio (CSCT)”, via Costabella 12, 00195 Roma (Marzo 2003).

### **Didattica per Dottorato di Ricerca:**

Maggio 2015: “*Metaheuristics and Experimental Design*”, dottorato in Matematica e Informatica (XXX ciclo)

2° semestre 2018: “*Metaheuristics, Hyperheuristics & Experimental Design*”, dottorato in Informatica (XXXIII ciclo)

### **Relatore Recenti Tesi di Laurea:**

Rocco Alessandro Scollo, “*Meta-Euristiche Parallele per il Problema della Colorazione dei Grafi*”, Dipartimento di Matematica ed Informatica, Università di Catania

Maria Oliva, *“Un Algoritmo Ibrido PSO per la Colorazione dei Grafi”*, Dipartimento di Matematica ed Informatica, Università di Catania

Antonino Di Stefano, *“Clonal Selection Algorithms: come l'Assegnazione dell'Età ad una Cellula Artificiale Influenza le sue Prestazioni”*, Dipartimento di Ingegneria Elettrica, Elettronica e Informatica, Università di Catania (11 Maggio 2018)

Alessandro Vitale, *“Ottimizzando la Maturazione di un Individuo Artificiale per Massimizzare l'Evolutionary Learning”*, Dipartimento di Ingegneria Elettrica, Elettronica e Informatica, Università di Catania (11 Maggio 2018)

Tobia Calenda, *“Quanto Tempo deve Vivere e Maturare un Individuo Artificiale? Un Algoritmo Genetico come Caso Studio”*, Dipartimento di Matematica ed Informatica, Università di Catania (3 marzo 2018).

Grigory Valenti, *“Colorazione Equa di Grafi tramite Computazione Naturale e Partizione di Interi”*, Dipartimento di Matematica ed Informatica, Università di Catania (11 novembre 2017 – correlatore).

Damiano Cancemi, *“Un Algoritmo Immunologico Ibrido per il Problema del Weighted Feedback Vertex Set”*, Dipartimento di Matematica ed Informatica, Università di Catania (9 Settembre 2017).

Alfio Patanè, *“Un Algoritmo Evolutivo per il Problema Capacitated Arc Routing”*, Dipartimento di Matematica ed Informatica, Università di Catania (9 Settembre 2017).

Biagio Diapico, *“Un Ant Colony Optimization per il problema del Bi-Partizionamento di un Grafo”*, Dipartimento di Matematica ed Informatica, Università di Catania (3 marzo 2017)

Leandro Cappello, *“Un Sistema Avanzato per l'Analisi del Gesto Sportivo: Myo Gesture Wearable Hacking”*, Dipartimento di Matematica ed Informatica, Università di Catania (2016, correlatore)

Alice Plebe, *“Sviluppo di un algoritmo genetico multi-obiettivo per la progettazione di illuminazione d'interni”*, Dipartimento di Matematica ed Informatica, Università di Catania (2016)

Gabriella Verga, *“Sviluppo e Analisi di un Algoritmo Immunologico per l'Ottimizzazione in Problemi di Distribuzione”*, Dipartimento di Matematica ed Informatica, Università degli Studi di Catania (2015).

Piero Consoli, *“Uno Sciame di Api Artificiali per la Colorazione di Grafi”*, Dipartimento di Matematica ed Informatica, Università degli Studi di Catania (attualmente studente di dottorato in Informatica all'Università di Birmingham, UK).

Alessio Collerà, *“Colorare una Mappa Attraverso una Colonia Artificiale di Formiche”*, Dipartimento di Matematica ed Informatica, Università degli Studi di Catania.

Adriano Strano, *“Ottimizzazione Combinatoria basata sul Modello del Comportamento Sociale”*, Dipartimento di Matematica ed Informatica, Università degli Studi di Catania. (attualmente borsista presso l'Università degli Studi di Catania).

Gaetano Giuga, *“Un Algoritmo Bio-Inspirato per Sfuggire dagli Ottimi Locali”*, Dipartimento di Matematica ed Informatica, Università degli Studi di Catania.

Davide Agostini, “*Estrazione dei Parametri nel Modello S-system per Reti Geniche*”, Dipartimento di Matematica ed Informatica, Università degli Studi di Catania.

Simone Agosta, “*Un Algoritmo Immunologico per Problemi di Ottimizzazione Combinatoria*”, Dipartimento di Matematica ed Informatica, Università degli Studi di Catania.

Adrian Medrano, “*Inferring a Gene Regulatory Network on S-system Model with Clonal Selection Principle*”, Computer Engineering, University of Vigo, Spain (studente ERASMUS).

### **Co-Advisor Studenti di Dottorato:**

November 1, 2019 – oggi: Rocco Alessandro Scollo, Department of Mathematics and Computer Science, University of Catania (ciclo XXXV)

November 1, 2019 – oggi: Georgia Fargetta, Department of Mathematics and Computer Science, University of Catania (ciclo XXXV)

November 1, 2018 – oggi: Antonio Gianmaria Spampinato, Department of Mathematics and Computer Science, University of Catania (ciclo XXXIII)

February 4, 2019 – May 3, 2019: Murat Aslan, Department of Computer Engineering at the Faculty of Engineering of the Selçuk University, Turkey (Erasmus Exchange Programme)

April 15, 2018 – June 18, 2018: Mostafa Mahi, Department of Computer Engineering at the Faculty of Engineering of the Selçuk University, Turkey (Erasmus Exchange Programme)

April 15, 2018 – June 18, 2018: Samira Vaziri, Department of Biochemistry, Faculty of Basic Sciences, Payame Noor University, Iran (Erasmus Exchange Programme)

July 27, 2017 – October 12, 2017: Murat Aslan, Department of Computer Engineering at the Faculty of Engineering of the Selçuk University, Turkey (Erasmus Exchange Programme)

2013 – July 2017: Piero Consoli, School of Computer Science, University of Birmingham, Birmingham, West Midlands, B15 2TT, UK

Nov. 2010 – Oct. 2013: Jole Costanza, Department of Mathematics and Computer Science, University of Catania

### **Co-Advisor International Research (MSc.) Student:**

July 2016 – June 2017: Sajjad Fouladvand, Academic Center for Education Culture and Research (ACECR), Khorramabad Branch, Iran (currently Ph.D. Student in the Institute for Biomedical Informatics, University of Kentucky, USA).

### **Research Tutor:**

Scuola Superiore di Catania - SSC, Mediterranean University Center, Università degli Studi di Catania.

## **Revisore Tesi di Dottorato Straniere:**

Raghesh Krishnan, “*Certain Investigations on Classification of Liver Disorders from Ultrasound Images*”, Faculty of Information and Communication Engineering, Anna University, Chennai, India

S. Bharathi, “*Certain Investigations on Multimodal Biometrics*”, Faculty of Information and Communication Engineering, Anna University, Chennai, India

Antonio David Masegosa Arredondo, “*Cooperative Methods in Optimisation: Analysis and Results*”, University of Granada, Granada, Spain.

Ignacio José García del Amo, “*Uncertain and Dynamic Optimization Problems: Solving Strategies and Applications*”, University of Granada, Granada, Spain.

## **Attività Scientifiche Editoriali:**

Membro dell’Editorial Board della rivista “*Memetic Computing*”, Springer-Verlag – ISSN: 1865-9284 (print version); ISSN: 1865-9292 (electronic version)

Membro dell’Editorial Board della rivista “*CAAI Transactions on Intelligence Technology*”, IET (Institution of Engineering and Technology) – ISSN: 2468-2322

Membro dell’Editorial Board della rivista “*IRAN journal of Computer Science*”, Springer – ISSN: 2520-8438 (print version); ISSN: 2520-8446 (electronic version)

Membro dell’Editorial Board della rivista “*International Journal of Advanced Intelligence Paradigms*”, Inderscience Publishers – ISSN: 1755-0386 (print version); ISSN: 1755-0386 (electronic version)

Membro dell’Editorial Board della rivista “*International Journal of Computational Systems Engineering*”, Inderscience Publishers Publishers – ISSN: 2046-3391 (print version); ISSN: 2046-3405 (electronic version)

Membro dell’Editorial Board della rivista “*Computers, Materials, and Continua*”, Tech Science Press, – ISSN: 1546-2218 (print version); ISSN: 1546-2226 (electronic version)

Membro dell’Editorial Board della rivista “*International Journal of Swarm intelligence and Evolutionary Computation*”, OMICS Publishing Group – ISSN: 2090-4894 (print version); ISSN: 2090-4908 (electronic version)

Membro dell’Editorial Board della rivista “*Advances Robotics & Automation*”, OMICS Publishing Group – ISSN: 2168-9695

Membro dell’Editorial Board della rivista “*International Journal of Biochemistry and Biophysics*” – ISSN: 2331-9925 (print version); ISSN: 2331-9933 (electronic version)

Membro dell’Editorial Board della rivista “*International Journal of Swarm Intelligence*” – ISSN: 2049-4041 (print version); ISSN: 2049-405X (electronic version)

Membro del Technical Editors della rivista “*Immune Computation*” – ISSN: 2234-4306 (print version); ISSN: 2234-4314 (electronic version)

Membro dell'Editorial Advisor Board per la pubblicazione del libro "Handbook of Research on the IoT, Cloud Computing and Wireless Network Optimization", IGI Global USA (Dicembre 2018)

Associate Editor della rivista "CAAI Transactions on Intelligence Technology", IET (Institution of Engineering and Technology) – ISSN: 2468-2322

Co-Editore per *Applied Soft Computing* journal, Elsevier, special issue on *Immune Computation: Algorithms and Applications* (in progress)

Co-Editore volume *Metaheuristics for Combinatorial Optimization*, Advances in Intelligent Systems and Computing, 2019 (in progress)

Co-Editore per *Swarm and Evolutionary Computation* journal, Elsevier, special issue on *Immune Computation and Applications* (vol. 50, November 2019) – ISSN: 2210-6502

Editor for *Swarm and Evolutionary Computation* journal, Elsevier (December 2017)

Co-Editore per *BMC Immunology*, special issue on *Systems Immunology and Immunoinformatics* (vol. 18, supplement 1, June 2017) – ISSN: 1471-2172

Co-Editore per *Engineering Applications of Artificial Intelligence*, Elsevier, special issue on *Recent Advances in Immunological Inspired Computation* (vol. 62, June 2017) – ISSN 0952-1976

Co-Editore per *Memetic Computing*, Springer, special issue on *Intelligent Cloud Computing* (vol. 8, no. 4, December 2016) – ISSN: 1865-9284 (print version) 1865-9292 (electronic version)

Co-Editore volume *10th International Workshop on Hybrid Metaheuristics* (HM 2016), LNCS 9668, 2016 – ISBN: 978-3-319-39635-4 (print version) 978-3-319-39636-1 (electronic version)

Co-Editore per *Artificial Life*, MIT Press, special issue on *Advances in Artificial Life: Synthesis and Simulation of Living Systems* (vol. 21, no. 4, 2015) – ISSN: 1865-9284 (print version) 1865-9292 (electronic version)

Co-Editore per *Natural Computing*, Springer, special issue on *Algorithms & Models for Complex Natural Systems* (vol. 14, no. 3, 2015) – ISSN: 1865-9284 (print version) 1865-9292 (electronic version)

Co-Editore volume IEEE Press, Proceedings "1st International Congress on Systems Immunology; Immunoinformatics & Immune Computation" (ICSI<sup>3</sup> 2015)

Co-Editore volume LNCS Springer, Proceedings "1st International Workshop on Machine learning, Optimization & big Data" (MOD 2015) – LNCS 9432, Gennaio 2016

Co-Editore dei Proceedings di *12th European Conference on Artificial Life, Advances in Artificial Life* (ECAL 2013), MIT Press – ISBN: 9780262317092

Editore per *Memetic Computing* (December 2012)

Co-Editore in *Memetic Computing*, per lo special issue *Optimization on Complex Systems* (vol. 4(3), September 2012) – ISSN: 1865-9284 (print version) 1865-9292 (electronic version)



Co-Editore dei Proceedings di *12th International Conference on Parallel Problem Solving from Nature* (PPSN 2012), LNCS 7491 - Part I, Springer – ISBN: 978-3-642-32936-4 (print version) 978-3-642-32937-1 (electronic version)

Co-Editore dei Proceedings di *12th International Conference on Parallel Problem Solving from Nature* (PPSN 2012), LNCS 7492 - Part II, Springer – ISBN: 978-3-642-32963-0 (print version) 978-3-642-32964-7 (electronic version)

Co-Editore dei Proceedings di *11th International Conference on Artificial Immune Systems* (ICARIS 2012), LNCS 7597, Springer – ISBN: 978-3-642-33756-7 (print version) 978-3-642-33757-4 (electronic version)

Co-Editore in *Natural Computing*, per lo special issue *Nature Inspired Cooperative Strategies for Optimization* (vol. 9(1), March 2010) – ISSN: 1567-7818 (print version) 1572-9796 (electronic version)

Co-Editore dei Proceedings di *2nd International Workshop on Nature Inspired Cooperative Strategies for Optimization* (NICSO 2007), Studies in Computational Intelligence 129, Springer – ISBN: 978-3-540-78986-4 (print version) 978-3-540-78987-1 (electronic version)

Co-Editore dei Proceedings di *Workshop Italiano di Vita Artificiale e Computazione Evolutiva* (WIVACE 2007), Sistemi Intelligenti, Società editrice Il Mulino, a. XX, n.2 – ISBN: 978-88-15-12385-5

### **Prossimi Eventi Scientifici Organizzati:**

Co-Direttore “*2<sup>nd</sup> International Metaheuristics Summer School (MESS 2020)*”, Catania, Italy

Co-Chair of the “*Artificial Immune Systems 2020*”, special session at the IEEE World Congress on Computational Intelligence (WCCI 2020), 19–24 July 2020, Glasgow, UK.

Co-Chair of the “*IEEE Symposium on Immune Computation 2020*”, part of the IEEE Symposium Series of Computational Intelligence (IEEE SSCI 2020), 1–4 Dec. 2020, Canberra, Australia.

### **Eventi Scientifici Organizzati:**

Co-Chair of the “*IEEE Symposium on Immune Computation 2019*”, part of the IEEE Symposium Series of Computational Intelligence (IEEE SSCI 2019), 6–9 Dec. 2019, Xiamen, China.

Co-Direttore “*First International Metaheuristics Summer School (MESS 2018)*”, 21-25 July 2018, Taormina (ME), Italy (directors: *Salvatore Greco*, University of Catania, Italy; *Panos Pardalos*, University of Florida, USA; *Mario F. Pavone*, University of Catania, Italy; *El-Ghazali Talbi*, Polytech'Lille, University Lille 1, France; *Daniele Vigo*, University of Bologna, Italy)

Co-Organizzatore “*International Conference on Optimization and Decision Science (ODS 2018)*”, 10-13 September 2018, Taormina (ME), Italy

Co-Chair of the “*ACM 12<sup>th</sup> International Workshop on Data & Text Mining in Biomedical Informatics (DTMBIO 2018)*”, in conjunction with ACM International Conference on Information and Knowledge Management (CIKM 2018), 22-26 October 2018, Lingotto, Turin, Italy.

Co-Chair of the “*IEEE Symposium on Immune Computation 2018*”, part of the IEEE Symposium Series of Computational Intelligence (IEEE SSCI 2018), 18–21 Nov. 2018, Bengaluru, India.

Co-Chair of the “*IEEE Symposium on Immune Computation 2017*”, part of the IEEE Symposium Series of Computational Intelligence (IEEE SSCI 2017), 27 Nov. – 1 Dec. 2017, Hawaii, USA.

Publicity Co-Chair of the “*The 1st International Conference on Data Intelligence and Security (ICDIS 2018)*”, 8–10 April 2018, South Padre Island, USA

Co-Chair of the special session “*Artificial Immune Systems: Algorithms, Simulation, Modelling & Theory*”, IEEE World Congress on Computational Intelligence (WCCI), 8-13 July 2018, Riode Janeiro, Brazil

Co-Chair of the special session “*Artificial Immune Systems: Algorithms, Simulation, Modelling & Theory*”, IEEE Congress on Evolutionary Computation (CEC), 5-8 June 2017, Donostia - San Sebastián, Spain (co-organized with *Jon Timmis*, University of York, UK, and *Thomas Jansen*, Aberystwyth University, UK)

Co-Chair of the special session “*Bio-inspired Fuzzy Logic Approaches - Interdisciplinary Emergent Technologies*”, IEEE Conference on Fuzzy Systems (FUZZ-IEEE) 2017 - 9-12 July 2017, Naples, Italy

Co-Chair of the special session “*Rough sets and Fuzzy Rough Hybridization with bio-inspired optimization techniques*”, IEEE Conference on Fuzzy Systems (FUZZ-IEEE) 2017 - 9-12 July 2017, Naples, Italy.

Program Co-Chair of the “*10th International Workshop on Hybrid Metaheuristics (HM 2016)*”, June 8-10, 2016, Plymouth, UK – <http://www.dmi.unict.it/hm2016/>

Co-Organizzatore Stream “*Metaheuristics for Multiobjective Optimization*”, 28th European Conference on Operational Research, July 3-6, 2016, Poznan, Poland

Co-Chair of the “*Bio-inspired Fuzzy Logic Approaches - Interdisciplinary Emergent Technologies*” - special session at IEEE-WCCI 2016, FUZZ-IEEE 2016 - 25-29 July 2016, Vancouver, Canada

Co-Direttore of the “*2nd international Synthetic & Systems Biology Summer School (SSBSS 2015)*”, July 5-9, 2015, Taormina, Italy – <http://www.taosciences.it/ssbss2015/>

Co-Chair of the “*1st International IEEE Congress on Systems Immunology, Immunoinformatics & Immune computation (ICS<sup>3</sup> 2015)*”, July 17-18, 2015, Taormina, Italy – <http://www.dmi.unict.it/ais2015/>

Co-Chair of the “*1st International Workshop on Machine learning, Optimization & big Data (MOD 2015)*”, July 21-24, 2015, Taormina, Italy – <http://www.taosciences.it/mod-2015/>

Co-Direttore: “*1st international Synthetic & Systems Biology Summer School (SSBSS 2014)*”  
Organizing Committee member of the “*18th European Conference on Mathematics for Industry (ECMI 2014)*”

Co-Chair: “*Recent Developments in Swarm Intelligence*”, special session at the *5th International Conference on Metaheuristics and Nature Inspired Computing (META 2014)*

Membro del comitato organizzatore: “*International Summit on Industrial Engineering 2014*”

Co-Chair: “12th European Conference on Artificial Life (ECAL 2013)”

General Co-Chair: “12th International Conference on Parallel Problem Solving From Nature (PPSN 2012)”

Co-Chair: “11th International Conference on Artificial Immune Systems (ICARIS 2012)”

Publicity Chair: “10th International Conference on Artificial Immune Systems (ICARIS 2011)”

Chair: “Natural Computation in BioInformatics (NCB 2010)”, special session at the European Conference on Operational Research (EURO XXIV)

Publicity Chair: “2nd International Summer School on Modelling and Optimization in Micro- and Nano- Electronics (MOMiNE 2009)”

Publicity Chair: “Bertinoro International Summer School on Natural Computation (BNC 2008)”

Publicity Chair: “International School of Functional Genomics (2008)”

Publicity Chair: “1st International Summer School on Modelling and Optimization in Micro- and Nano- Electronics (MOMiNE 2008)”

Co-Chair: “2nd International Workshop on Nature Inspired Cooperative Strategies for Optimization (NICSO 2007)”

Co-Chair: “Italian Workshop on Artificial Life and Evolutionary Computation (WIVACE 2007)”

Membro del comitato organizzatore: scuola estiva “Computazione Intelligente e Vita Artificiale (SECEVitA 2007)”

Membro del comitato organizzatore: “3th International Conference on Artificial Immune Systems (ICARIS 2004)” – LNCS 3239, Springer.

### **Revisore per le seguenti Riviste Internazionali:**

- *IEEE Transaction on Evolutionary Computation, IEEE Press*
- *Evolutionary Computation, MIT Press*
- *European Journal of Operational Research, Elsevier*
- *ACM Transactions on Autonomous and Adaptive Systems, ACM*
- *Swarm and Evolutionary Computation, Elsevier*
- *IEEE Transactions on Systems, Man and Cybernetics - part B, IEEE Press*
- *IEEE Transactions on Network and Service Management, IEEE Press*
- *IEEE Transactions on NanoBioscience, IEEE Press*
- *IEEE Transactions on Industrial Informatics, IEEE Press*
- *Journal of Global Optimization, Springer*
- *Applied Soft Computing, Elsevier*
- *Engineering Applications of Artificial Intelligence (EAAI), Elsevier*
- *4OR – A Quarterly Journal of Operations Research, Springer*
- *The Journal of Supercomputing, Springer*
- *Machine Learning, Springer*

- *Operational Research: An International Journal*, Springer
- *Information Sciences*, Elsevier
- *Genetic Programming and Evolvable Machines*, Springer
- *Computers in Biology and Medicine*, Elsevier
- *Computer & Industrial Engineering*, Elsevier
- *Natural Computing*, Springer
- *Applied Mathematics and Computation*, Elsevier
- *Memetic Computing*, Springer
- *Swarm Intelligence*, Springer
- *Evolutionary Intelligence*, Springer
- *Journal of The Franklin Institute*, Elsevier
- *Soft Computing*, Springer
- *Applied Intelligence*, Springer
- *Computational Optimization and Applications*, Springer
- *NeuroComputing*, Elsevier
- *International Journal of Intelligent Systems (IJIS)*, John Wiley & Sons
- *International Journal of Machine Learning and Cybernetics*, Springer
- *Neural Computing and Applications*, Springer

### **Revisore per International Fellowship:**

Gennaio 2015: Downing College, Cambridge, UK - Everitt Butterfield Research Fellowship Competition 2015

### **Revisore Progetti Nazionali e Internazionali:**

May-Jun 2015: Reviewer for Progetti di ricerca di Rilevante Interesse Nazionale (PRIN 2015) - Italy

Dec. 2014: Reviewer for Scientific Independence of young Researchers national program (SIR 2014)

Sept. 2012: Portuguese Evaluation Process for Portuguese Foundation for Science and Technology

### **Revisore Libri:**

Reviewer for CRC Press about the proposal for publishing the book: “*Computational Intelligence for Human Action Recognition*” (Agosto 2018)

Reviewer for CRC Press about the proposal for publishing the book: “*Nature Inspired Algorithms – State of the Art for Discrete Problems*” (2014)

### **Comitato di Programma:**

- *International Conference on Parallel Problem Solving From Nature (PPSN)*
- *ACM Genetic and Evolutionary Computation Conference (GECCO)*
- *European Conference on Artificial Life (ECAL)*
- *IEEE Congress on Evolutionary Computation (CEC)*

- *European Conference on Evolutionary Computation in Combinatorial Optimization (EvoCOP)*
- *International Conference on the Synthesis and Simulation of Living Systems (ALIFE)*
- *ACM Conference on Bioinformatics, Computational Biology and Biomedicine (BCB)*
- *Metaheuristics International Conference (MIC)*
- *ACM 11th International Workshop on Data and Text Mining Biomedical Informatics (DTMBIO)*
- *International Workshop on Hybrid Metaheuristics (HM)*
- *International Conference on Artificial Immune Systems (ICARIS)*
- *International Conference on Informatics in Control, Automation and Robotics (ICINCO)*
- *International Conference on Electrical Engineering, Computing Science and Automatic Control (CCE)*
- *International Workshop on the Synergy of Parallel Computing, Optimization and Simulation (PaCOS)*
- *International Workshop on Nature Inspired Cooperative Strategies for Optimization (NICSO)*
- *IEEE International Conference on Big Data and Smart Computing (BigComp)*
- *International Conference on Consumer Electronics, Communications and Networks (CECNet)*
- *Mexican International Conference on Artificial Intelligence (MICAI)*
- *International Conference on Bioinspired Optimization Methods and their Applications (BIOMA)*
- *International Conference on Metaheuristics and Nature Inspired Computing (META)*
- *International Multi-Conference on Complexity, Informatics and Cybernetics (IMCIC)*
- *World Multi-Conference on Systemics, Cybernetics and Informatics (WMSCI)*
- *International Symposium on Bio- and Medical Informatics and Cybernetics (BMIC)*
- *International Symposium on Optical Engineering and Photonic Technology (OEPT)*
- *13th International Conference on Neural Information Processing (ICONIP 2006)*

### **Partecipazioni a Progetti di Ricerca:**

Sept. 2016: partecipazione all'attività di ricerca in convenzione c/terzi con la ditta S.C.I. s.r.l., progetto PRICE PLUS (fondo crescita sostenibile – HORIZON 2020 PRICE<sup>tm</sup> PLUS – Ministero Sviluppo Economico n. F/0270/00/X26 – 10 maggio 2016)

FIR 2014: “*Apoptosis Neurale Artificiale*” (2015-2016)

### **Invited Speaker:**

June 2017: “*Evolution and Nature for Developing Computational Models*”, at *Changing the World, with Cognition. The Role of Cognitive Science in Social Change*, AISC MidTerm Conference 2017, 8-9 June 2017, Messina

September 2009: *Problem Solving with Artificial Immune Systems*, at MOMiNE 2009 (2<sup>nd</sup> International Summer School on Modelling and Optimization in Micro- and Nano- Electronics), Cetraro, Cosenza, Italy.

### **Tutorial Speaker:**

June 2020: *Looking the Immune System as an Optimization Method*, at LOPAL 2020 (2<sup>nd</sup> International Conference on Learning and Optimization Algorithms: Theory and Applications), Cordoba, Spain, 23-25 June 2020.

November 2017: *An Analysis on the Influence of Age Assignments for Maximizing the Evolutionary Learning in an Immune Algorithm*, at IJCCI 2017 (9<sup>th</sup> International Joint Conference on Computational Intelligence), Funchal, Madeira-Portugal, 1-3 November 2017.

October 2014: *The Clonal Selection Paradigm for Optimization in Continuous and Discrete Search Spaces*, at META 2014 (5<sup>th</sup> International Conference on Metaheuristics and Nature Inspired Computing), Marrakech, Morocco.

## **Talks & Seminari**

July 7, 2016: *How Old should be the Lifespan for Having a Proper Exploration?*, Metaheuristics, Optimization and Applications research laboratory, Department of Computer Science, University of Angers, France.

December 10, 2015: *Algoritmi di Ricerca Bio-Ispirati*, Dipartimento di Matematica, Università degli Studi di Salerno, Italy.

November 3, 2015: *Sviluppo e Analisi di MetaEuristiche Bio-Ispirate per l'Ottimizzazione*, Dipartimento di Informatica, Università di Torino, Italy.

October 29, 2014: *Bio-Inspired Algorithms for Complexity Science*, School of Computing, University of Kent, UK

November 2009: *An Hybrid Immunological Algorithm for Combinatorial Optimization*, Università di Napoli "Federico II", Italy.

November 2009: *Robust Immunological Algorithms for High-Dimensional Global Optimization*, Università di Napoli "Federico II", Italy.

May 2007: *Artificial Immune Systems: Metaphors and Applications*, Università di Catania, Italy.

July 2006: *Optimization Immune Algorithm to the PSP on Lattice Models*, IBM-KAIST Bio-Computing Research Centre, Department of BioSystems, Korea Advanced Institute of Science and Technology (KAIST), Republic of Korea.

April 2006: *Basis Biological Concepts for Artificial Immune Systems*, IBM-KAIST Bio-Computing Research Centre, Department of BioSystems, Korea Advanced Institute of Science and Technology (KAIST), Republic of Korea.

February 2006: *Clonal Selection Principle is a good Metaphor for Optimization Problems*, Università di Catania, Italy.

February 2004: *Information Gain as a Termination Criteria*, Università di Catania, Italy.

January 2004: *The Hypermutation Operators of Clonal Selection Algorithms for the Protein Structure Prediction Problem*, Università di Catania, Italy.

January 2004: *An Introduction to Artificial Immune System and Protein Structure Prediction Problem*, Università di Catania, Italy.

## **Funzioni Amministrative e Accademiche:**

12 Dicembre 2019: componente commissione giudicatrice presso l'Università degli Studi di Catania per "gara europea a procedura aperta relativa alla fornitura di una soluzione integrata d'aula multimediale per l'erogazione di didattica frontale con l'ausilio di supporti e contenuti didattici digitali e possibilità di e-learning, registrazione audio e video e archiviazione per la consultazione in streaming on-demand tramite una piattaforma cloud" (bando prot. 300776-X/4 del 14/10/2019)

11 & 13 Dicembre 2019: componente commissione giudicatrice presso l'Università degli Studi di Palermo per "selezione pubblica, per esami, per la copertura di n.1 posto di categoria D – posizione economica D1 - Area Tecnica, Tecnico-Scientifica e di elaborazione dati da destinare all'area sistemi informativi e portale di ateneo dell'Università degli Studi di Palermo nell'ambito del progetto FORTHEM, con rapporto di lavoro a tempo determinato (tre anni) e con tipologia di impegno a tempo pieno" (D.D.G. n. 3986/2019 del 15/11/2019)

Settembre 2019: componente commissione di valutazione del concorso per l'ammissione al dottorato in informatica XXXV ciclo, Università degli Studi di Catania.

Aprile 2012: componente commissione di valutazione per l'affidamento di un incarico di collaborazione esterna per le esigenze del Dipartimento di Matematica e Informatica (Bando n. 689 del 28 febbraio 2012)

Ottobre 2011: componente commissione interna DMI per la valutazione ANVUR 2004-2010

Giugno 2011: componente commissione di valutazione delle domande per l'assegnazione di borsa di studio per la partecipazione al corso di "Video-games" organizzato dalla E-ludo anno 2011.

Dicembre 2010: componente commissione di valutazione del concorso per l'ammissione al dottorato in informatica XXVI ciclo, Università degli Studi di Catania.

## **Memberships:**

2003: International Society for Genetic and Evolutionary Computation (ISGEC).

2003 – present: member of IEEE, IEEE CIS, ACM, SIAM, AIXIA (*Italian Association for Artificial Intelligence*)

2010 – present: EURO, Association of European Operational Research Societies

2010 – present: EWG EUROPT, The Continuous Optimization Working Group of EURO

2010 – present: EWG ECCO, European Chapter on Combinatorial Optimization

2011 – present: VeRoLog, EURO Working Group on Vehicle Routing and Logistics Optimization

2014: EWG CBBM, The Operational Research in Computational Biology, Bioinformatics and Medicine

## **Grants:**

July 2016: *visiting professor grant* by the Faculty of Sciences, University of Angers, France (reference: Prof. Jin-Kao Hao, Jin-Kao.Hao@univ-angers.fr)

2003: AAI - American Association for Artificial Intelligence (grant)

## **Collaborazioni Internazionali Scientifiche e di Ricerca:**

- *Prof. El-Ghazali Talbi*, Polytech'Lille, University of Lille 1, France
- *Prof. Jin-Kao Hao*, University of Angers, France
- *Prof. Carlos A. Coello Coello*, CINVESTAV-IPN, University of Mexico (2013 IEEE Kiyo Tomiyasu Award)
- *Prof. Salvatore Greco*, University of Catania, Italy & University of Portsmouth, UK
- *Prof. Daniele Vigo*, University of Bologna, Italy
- *Prof. Raffaele Cerulli*, University of Salerno, Italy
- *Prof. Christian Blum*, University of the Basque Country, San Sebastian, Spain
- *Prof. Natalio Krasnogor*, School of Computing Science, Newcastle University, UK
- *Prof. Doheon Lee*, Department of Bio and Brain Engineering, KAIST, Republic of Korea
- *Prof. Athanasios Vasilakos*, University of Western Macedonia, Greece
- *Prof. Wenjian Luo*, University of Science and Technology of China
- *Prof. Xiao-Zhi Gao*, Aalto University School of Electrical Engineering, Finland
- *Prof. David Pelta*, Department of Computer Science, University of Granada
- *Prof. Camelia Pinte*a, Technical University Cluj-Napoca, Romania



## **Publications:**

### ***International Journals***

- S. Fouladvand, A. Osareh, B. Shadgar, M. Pavone, and S. Sharafi, “*DENSA: An effective negative selection algorithm with flexible boundaries for selfspace and dynamic number of detectors*”, Engineering Applications of Artificial Intelligence, Vol. 62, pp. 359-372, 2017
- J. Costanza, V. Cutello and M. Pavone, “*An Immunological Algorithm for Combinatorial Optimization: the Fuel Distribution Problem as Case Study*”, International Journal of Swarm Intelligence and Evolutionary Computation, Vol. 4, No. 1, pp. 1-9, 2015
- M. Pavone, G. Narzisi, G. Nicosia “*Clonal Selection - An Immunological Algorithm for Global Optimization over Continuous Spaces*”, Journal of Global Optimization, Vol. 53, No. 4, pp. 769-808, 2012.
- V. Cutello, G. Nicosia, M. Pavone “*Protein Multiple Sequence Alignment by Hybrid Immunological Algorithms*”, Nucleic Acids Research, Oxford Journals, Vol. 39, No. 6, pp. 1980-1992, 2011.
- V. Cutello, G. Morelli, G. Nicosia, M. Pavone and G. Scollo, “*On Discrete Models and Immunological Algorithms for Protein Structure Prediction*”, Natural Computing Journal, special issue on Modelling Bioprocesses, Vol. 10, No. 1, pp. 91-102, 2011.
- V. Cutello, G. Nicosia, M. Pavone, “*An Immune Algorithm with Stochastic Aging and Kullback Entropy for the Chromatic Number Problem*”, Journal on Combinatorial Optimization, Vol. 14, No. 1, pp. 9-33, 2007.
- V. Cutello, G. Nicosia, M. Pavone, J. Timmis “*An Immune Algorithm for Protein Structure Prediction*”, IEEE Transaction on Evolutionary Computation, Vol. 11, No. 1, pp. 101-117, 2007.

### ***Refereed Conference/Workshop Proceedings***

- S. Greco, M.Pavone, E.G. Talbi, and D. Vigo, “*Metaheuristics for Combinatorial Optimization*”, Advances in Intelligent Systems and Computing, Springer (in press)
- R.A. Scollo, E.G. Talbi, and M.Pavone, “*A Deeply Look to the Metaheuristics World*”, Advances in Intelligent Systems and Computing, Springer (in press)
- V. Cutello, M. Oliva, M. Pavone and A.R. Scollo, “*An Immune Metaheuristics for Large Instances of the Weighted Feedback Vertex Set Problem*”, IEEE Symposium Series on Computational Intelligence (IEEE SSCI 2019), IEEE Press.
- A.G. Spampinato, R.A. Scollo, S. Cavallaro, V. Cutello, and M. Pavone, “*An Immunological Algorithm for Graph Modularity Optimization*”, 19th UK Workshop on Computational Intelligence (UKCI 2019), Advances in Computational Intelligent Systems, part of the Advances in Intelligent Systems and Computing book series (AISC), Vol. 1043, pp. 235-247, 2020, Springer.
- C. Crespi, A.G. Spampinato, R.A. Scollo and M. Pavone, “*ACOLABS: an Ant Colony for Labyrinth Solving*”, XIV International Workshop on Artificial Life and Evolutionary Computation (WIVACE 2019).

V. Cutello, M. Oliva, M. Pavone and A.R. Scollo, "*A Hybrid Immunological Search for the Weighted Feedback Vertex Set Problem*", 13th Learning and Intelligent Optimization Conference (LION 2019), LNCS, Springer.

A. Plebe, V. Cutello and M. Pavone, "*Optimizing Costs and Quality of Interior Lighting by Genetic Algorithm*", Studies in Computational Intelligence book series, Springer, vol.829, pp. 19-39, 2019.

T. Calenda, A. Vitale, A. Di Stefano, V. Cutello, E.G. Talbi, and M. Pavone, "*Maturation of Individuals in Evolutionary Learning*", Recent Developments in Metaheuristics, Springer. (in press)

A. Plebe, V. Cutello and M. Pavone, "*Multi-Objective Genetic Strategy for Interior Illumination Design*", selected paper from IJCCI 2017 for publication in Studies in Computational Intelligence book series, Springer (to appear).

T. Calenda, A. Vitale, A. Di Stefano, V. Cutello, E.G. Talbi, and M. Pavone, "*Maturation of Individuals in Evolutionary Learning*", 7<sup>th</sup> International Conference on Metaheuristics and Nature Inspired Computing (META 2018), Recent Developments in Metaheuristics, Springer, 2018 (to appear)

A. Vitale, A. Di Stefano, V. Cutello, and M. Pavone, "*The Influence of Age Assignments on the Performance of Immune Algorithms*", 18<sup>th</sup> Annual UK Workshop on Computational Intelligence (UKCI 2018), Advances in Computational Intelligence Systems, Advances in Intelligent Systems and Computing series, vol 840, pp. 16-28, Springer-Verlag, 2018.

A. Plebe, and M. Pavone, "*Multi-objective Genetic Algorithm for Interior Lighting Design*", 3<sup>rd</sup> International Conference on Machine Learning, Optimization and Big Data (MOD 2017), LNCS 10710, pp. 222-233, Springer-Verlag, 2018.

C. M. Pinteá, O. Matei, R.A. Ramadan, M. Pavone, M. Niazi, and A. Taher, "*A Fuzzy Approach of Sensitivity for Multiple Colonies on Ant Colony Optimization*", 7th International Workshop on Soft Computing Applications (SOFA 2016), Soft Computing Applications, Springer, Volume 2, Series volume 634, pp. 87-95, 2018.

A. Plebe, V. Cutello and M. Pavone, "*Genetic Strategy for Interior Lighting Design*", 9<sup>th</sup> International Joint Conference on Computational Intelligence (IJCCI 2017), Vol. 1, pp. 289-296, 2017. (ISBN: 978-989-758-274-5)

T. Calenda, A. Di Stefano, A. Vitale, V. Cutello, and M. Pavone, "*Optimizing the Individuals Maturation for Maximizing the Evolutionary Learning*", XII Workshop on Artificial Life and Evolutionary Computation (WIVACE 2017), pp. 27-30, 2017. (ISBN 978-88-903581-3-5, 2017)

A. Di Stefano, A. Vitale, V. Cutello, and M. Pavone, "*How long should Offspring Lifespan be in order to obtain a proper exploration?*", IEEE Symposium Series on Computational Intelligence (IEEE SSCI 2016), IEEE Press, pp. 1-8, INSPEC Accession Number: 16670548, 2016.

P. Conca, G. Stracquadanio, O. Greco, V. Cutello, M. Pavone and G. Nicosia, "*Packing equal disks in a unit square: an immunological optimization approach*", 1st International Congress on Systems Immunology, Immunoinformatics & Immune-computation (ICSI<sup>3</sup> 2015), IEEE Press, Taormina, Italy, July 17-18, 2015 (INSPEC Accession Number: 15989392).

P. Consoli, and M. Pavone, "*O-BEE-COL: Optimal BEES for COLORing Graphs*", Biennial International Conference on Artificial Evolution (EA 2013), LNCS 8752, pp. 243-255, Springer-Verlag, Bordeaux, France, October 21-23, 2013.

- P. Consoli, A. Collerà, and M. Pavone, “*Swarm Intelligence Heuristics for Graph Coloring Problem*”, IEEE Congress on Evolutionary Computation (CEC 2013), Vol. 1, pp. 1909-1916, Cancún, México, June 20-23, 2013. IEEE Press (INSPEC Accession Number: 13672192).
- V. Cutello, A. G. De Michele, and M. Pavone, “*Escaping Local Optima via Parallelization and Migration*”, 6th International Workshop on Nature Inspired Cooperative Strategies for Optimization (NICSO 2013), Studies in Computational Intelligence, Vol. 512, pp. 141-152, Canterbury, UK, September 2-4, 2013.
- A. G. De Michele, and M. Pavone, “*Multi-Threaded Genetic Algorithm for Escaping Local Optima*”, 4th International Conference on Metaheuristics and Nature Inspired Computing (META 2012), Port El-Kantaoui, Tunisia, October 27-31, 2012.
- D. Agostini, J. Costanza, V. Cutello, L. Zammataro, N. Krasnogor, M. Pavone, and G. Nicosia, “*Effective Calibration of Artificial Gene Regulatory Networks*”, 20th European Conference on Artificial Life (ECAL 2011), pp. 39-46, MIT Press, Paris, France, August 8-12, 2011.
- G. Stracquadanio, R. Umeton, J. Costanza, V. Annibali, R. Mechelli, M. Pavone, L. Zammataro, and G. Nicosia, “*Large Scale Agent-Based Modeling of the Humoral and Cellular Immune Response*”, 10th International Conference on Artificial Immune Systems (ICARIS 2011), LNCS 6825, pp. 15-29, Springer-Verlag, Cambridge, UK, July 18-21, 2011.
- J. Costanza, V. Cutello, and M. Pavone, “*A Memetic Immunological Algorithm for Resource Allocation Problem*”, 10th International Conference on Artificial Immune Systems (ICARIS 2011), LNCS 6825, pp. 308-320, Springer-Verlag, Cambridge, UK, July 18-21, 2011.
- M. Pavone, “*P system Reverse Engineering for Gene Regulatory Networks in S-system Models*”, 8th International Conference on Complex Systems (ICCS 2011), New England Complex Systems Institute, pp. 492-503, Quincy, MA, USA, June 26 - July 1, 2011.
- V. Cutello, G. Nicosia, M. Pavone, and G. Stracquadanio “*Entropic Divergence for Population Based Optimization Algorithms*”, IEEE World Congress on Computational Intelligence (WCCI 2010), Barcelona, Spain, July 18-23, 2010. IEEE Press.
- V. Cutello, G. Nicosia, M. Pavone and G. Stracquadanio, “*An Information Theoretic Approach for Clonal Selection Algorithms*”, 9th International Conference on Artificial Immune Systems (ICARIS 2010), LNCS 6209, pp. 144-157, Edinburgh, UK, July 26-29, 2010.
- V. Cutello, G. Nicosia, M. Pavone, I. Prizzi, “*Proteomic Multiple Sequence Alignments: Refinement using an Immunological Local Search*”, Applied and Industrial Mathematics in Italy II (SIMAI), series on Advances in Mathematics for Applied Sciences, Vol. 75, pp. 291-302, World Scientific, 2007.
- V. Cutello, N. Krasnogor, G. Nicosia, M. Pavone “*Immune Algorithm versus Differential Evolution: a Comparative Case Study using High Dimensional Function Optimization*”, International Conference on Adaptive and Natural Computing Algorithms (ICANNGA), LNCS 4431, pp. 93-101, Warsaw, Poland, 11-14 April, 2007.
- V. Cutello, D. Lee, G. Nicosia, M. Pavone, I. Prizzi, “*Aligning Multiple Protein Sequences by Hybrid Clonal Selection Algorithm with Insert-Remove-Gaps and BlockShuffling Operators*”, 5th International Conference on Artificial Immune Systems (ICARIS), Lecture Notes in Computer Science, Vol. 4163, pp. 321-334, Instituto Gulbenkian de Ciência, Oeiras, Portugal, September 4-6, 2006.

- V. Cutello, D. Lee, S. Leone, G. Nicosia, M. Pavone, “*Clonal Selection Algorithm with Dynamic Population Size for Bimodal Search Spaces*”, 2nd International Conference on Natural Computation (ICNC), Lecture Notes in Computer Science, Vol. 4221, pp. 949-958, Xi'an, China, September 24-28, 2006.
- V. Cutello, G. Narzisi, G. Nicosia, M. Pavone “*Real Coded Clonal Selection Algorithm for Global Numerical Optimization using a new Inversely Proportional Hypermutation Operator*”, 20th ACM Symposium on Applied Computing (SAC), ACM vol. 2, pp. 950-954, Dijon, France, April 23-27, 2006.
- V. Cutello, G. Narzisi, G. Nicosia, M. Pavone, “*An Immunological Algorithm for Global Numerical Optimization*”, 7th International Conference on Artificial Evolution (EA), Lecture Notes in Computer Science, Vol. 3871, pp. 284-295, Lille, France, October 26-28, 2005.
- V. Cutello, G. Narzisi, G. Nicosia, M. Pavone, “*Clonal Selection Algorithms: A Comparative Case Study using Effective Mutation Potentials*”, 4th International Conference on Artificial Immune Systems, *ICARIS 2005*, Lecture Notes in Computer Science, Vol. 3627, pp. 13-28, Banff, Alberta, Canada, August 14-17, 2005.
- V. Cutello, G. Morelli, G. Nicosia, M. Pavone, “*Immune Algorithms with Aging Operators for the String Folding Problem and the Protein Folding Problem*”, 5th European Conference on Evolutionary Computation in Combinatorial Optimization, *EVO COP 2005*, Lecture Notes in Computer Science, Vol. 3448, pp. 80-90, Lausanne, Switzerland, March 30 – April 1, 2005.
- V. Cutello, G. Nicosia, M. Pavone, “*Exploring the Capability of Immune Algorithms: A Characterization of Hypermutation Operators*”, 3rd International Conference on Artificial Immune Systems, *ICARIS 2004*, Lecture Notes in Computer Science, Vol. 3239, pp. 263-276, Catania, Italy, September 13-16, 2004.
- V. Cutello, G. Narzisi, G. Nicosia, M. Pavone, G. Sorace, “*How to Escape Traps Using Clonal Selection Algorithms*”, 1st International Conference on Informatics in Control, Automation and Robotics, *ICINCO 2004, INSTICC Press*, Vol. 1, pp. 322-326, Setúbal, Portugal, August 25-28, 2004.
- V. Cutello, G. Nicosia, M. Pavone, “*An Immune Algorithm with Hyper-Macromutations for the Dill's 2D Hydrophobic-Hydrophilic Model*”, 2004 IEEE Congress on Evolutionary Computation, *CEC 2004, IEEE Press*, Vol. 1, pp. 1074-1080, Portland, Oregon, June 19-20, 2004.
- V. Cutello, G. Nicosia, M. Pavone, “*A Hybrid Immune Algorithm with Information Gain for the Graph Coloring Problem*”, Genetic and Evolutionary Computation Conference, *GECCO 2003*, Lecture Notes in Computer Science, Vol. 2723, pp. 171-182, Chicago, Illinois, July 12-16, 2003.
- A. Cincotti, V. Cutello, M. Pavone, “*Graph Partitioning with Genetic Algorithms using ODPX*”, 2002 IEEE Congress on Evolutionary Computation, *CEC 2002, IEEE Press*, pp. 402-406, Honolulu, Hawaii, May 12-17, 2002.
- A. Cincotti, V. Cutello, F. Pappalardo, M. Pavone: “*GPEG: Graph Partitioning using evolutionary games*”, Proceedings of the 9th International Conference on Information Processing and Management of Uncertainty in Knowledge-Based Systems, *IPMU 2002*, Vol. 2, pp.817-821, Annecy, France, July 1-5, 2002.

### ***Refereed Abstracts/Communications under Reviewers and with Proceedings***

S. Strano, V. Cutello and M. Pavone, “*An Immunological Algorithm for the Capacitated Vehicle Routing Problem*”, 28th Conference of the European Chapter on Combinatorial Optimization (ECCO 2015), May 28-30, 2015

P. Consoli, A. Collerà and M. Pavone, “*Which Artificial Colony Seems to Be Most Suitable for Coloring a Map?*”, 11th Workshop on Advances in Continuous Optimization (EUROPT 2013), Florence, Italy, 26-28 June, 2013.

P. Consoli, and M. Pavone, “*Artificial Bee Colony for Graph Coloring Problem*”, 26th European Conference on Operational Research (EURO | INFORMS MMXIII), Rome, Italy, 1-4 July, 2013.

A. G. De Michele and M. Pavone, “*Multi-Threaded Genetic Algorithm for Escaping Local Optima*”, 10th Workshop on Advances in Continuous Optimization (EUROPT), Siauliai, Lithuania, July 5-7, 2012

M. Pavone, “*Parameters Optimization in S-System Models using Population-based Reverse Engineering Methods*”, SIAM Conference on OPTIMIZATION (OP11), Darmstadt, Germany, May 16-19, 2011.

M. Pavone and N. Krasnogor, “*A Memetic Clonal Selection Algorithm for a Combinatorial Optimization*”, 8th EUROPT Workshop “Advances in Continuous Optimization”, satellite events of European Conference on Operational Research (EURO XXIV), Lisbon, Portugal, July 11-14, 2010.

M. Pavone and N. Krasnogor, “*Bio-Inspired Reverse Engineering Methodologies to Infer the Gene Regulatory Networks*”, 24th European Conference on Operational Research (EURO XXIV), special session on Natural Computation in BioInformatics, Lisbon, Portugal, July 11-14, 2010.

V. Cutello, G. Nicosia and M. Pavone, “*Optimization Algorithms for the Protein Structure Prediction Problem*”, 24th European Conference on Operational Research (EURO XXIV), special session on Natural Computation in BioInformatics, Lisbon, Portugal, July 11-14, 2010.

### ***Refereed Abstracts/Communications under Reviewers and without Proceedings***

V. Cutello, G. Nicosia, M. Pavone “*Robust Immunological Algorithm for High-Dimensional Global Optimization*”, VI Italian Workshop on Artificial Life and Evolutionary Computation, Naples, Italy, November 23-25, 2009.

V. Cutello, G. Nicosia, M. Pavone “*A Hybrid Immunological Algorithm for Combinatorial Optimization Problems*”, VI Italian Workshop on Artificial Life and Evolutionary Computation, Naples, Italy, November 23-25, 2009.

### ***Editorials***

W.Luo, M. Pavone, C. A. Coello Coello, L. Jiao, and R. Mehr, Editorial: *Foreword: Some advances in Immune Computation and applications*, special issue on Swarm and Evolutionary Computation, Elsevier, Vol. 50, 100596, 2019.

M. Pavone, R.A. Ramadan, and A.V. Vasilakos, Editorial: *Intelligent Cloud Computing*, special issue on Memetic Computing, Springer, Vol. 8, No. 4, 2016

- P. Liò, O. Miglino, G. Nicosia, S. Nolfi and M. Pavone, Editorial: *Advances in Artificial Life*, special issue on Artificial Life, MIT, Vol. 21, No. 2, 2015
- C. A. Coello Coello, G. Franco, N. Krasnogor, and M. Pavone, Editorial: *Algorithms & Models for Complex Natural Systems*, special issue on Natural Computing, Springer, Vol. 14, No. 3, pp. 339-340, 2015
- M. Pavone, and C. A. Coello Coello, Editorial: *Optimization on Complex Systems*, special issue on Memetic Computing, Vol. 4, No. 3, pp. 163-164, 2012
- N. Krasnogor, G. Nicosia, M. Pavone, and D.A. Pelta, Editorial: *Nature Inspired Cooperative Strategies for Optimization*, special issue on Natural Computing, Vol. 9, No. 1, pp. 1-3, 2010.
- M. J. Blesa, C. Blum, A. Cangelosi, V. Cutello, A. Di Nuovo, M. Pavone and E.G. Talbi, “*10th International Workshop on Hybrid Metaheuristics – HM 2016*”, Lecture Notes in Computer Science, Springer, Vol. 9668, Springer-Verlag, 2016.
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