

# Giuseppe F. Italiano

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## RESEARCH INTERESTS

My interests are in the design, analysis, implementation and experimental evaluation of algorithms and data structures. My research areas include algorithm engineering, combinatorial algorithms, computer security, graph algorithms and string algorithms.

## PERSONAL

Born on March 16, 1961 in Italy. Italian Citizen. Married plus four. Enjoy running.

## EDUCATION

- 1988 - 91 Ph.D. in Computer Science. Columbia University, New York, NY. Thesis Advisor: Prof. Zvi Galil. Thesis Title: "Dynamic data structures for graphs".
- 1990 M.Phil. Columbia University, New York, NY.
- 1987 - 88 M.Sc. in Computer Science. Columbia University, New York, NY.
- 1979 - 85 *Laurea summa cum laude* in Electrical Engineering. University of Rome "La Sapienza", Roma, Italy. Thesis Advisor: Prof. Giorgio Ausiello.

## EMPLOYMENT

- 1998 - *Professor of Computer Science.* University of Rome "Tor Vergata", Italy.
- 2004 - 12 *Chair of the Department of Computer Science, Systems and Production.* University of Rome "Tor Vergata".
- 1995 - 98 *Professor of Computer Science.* University of Venice "Ca' Foscari", Italy.
- 1994 - 95 *Professor of Computer Science.* University of Salerno, Italy.
- 1991 - 95 *Research Staff Member.* IBM Research Division, T.J. Watson Research Center, *Communication Systems Department.*
- 1989 - 94 *Assistant Professor.* University of Rome "La Sapienza", Italy.

## OTHER APPOINTMENTS

- 2013 - *Vice-Rector for Quality, Evaluation and Performance.* University of Rome "Tor Vergata".
- 2012 - *Member of the Board of Directors.* In-Time (<http://www.innovazioniperlaterra.org/>). Start-up focusing on information technologies for the environment.
- 2012 - *Member of the Scientific Committee,* CeRSI, Research Center in Information Systems, LUISS University, Rome.
- 2011 - 14 *Member of the Gödel Award Committee, Chair* in 2014.
- 2009 - *Co-founder,* TrustMyPhone (<http://trustmyphone.com>). Start-up focusing on security for mobile devices.
- 2006 - 13 *Member of the Council.* European Association for Theoretical Computer Science.
- 2002 - 08 *Chair of the Evaluation Committee.* University of Rome "Tor Vergata".

- 2002 - 08 *Member of the Council.* European Association for Theoretical Computer Science, Italian Chapter.
- 2001 - 07 *Member of the Board of Directors.* Roma Ricerche Consortium.
- 2001 - *Co-founder,* Wireless Lab (<http://www.w-lab.it>). Start up focusing on wireless technologies and on pervasive and mobile computing.
- 2000 *Visiting Professor.* Department of Computer Science, Columbia University.
- 2000 *Member of the EATCS Doctoral Dissertation Thesis Award Committee,* EATCS Italian Chapter
- 1998 *Visiting Professor.* Department of Computer Science, The Hong Kong University of Science & Technology.

## AWARDS AND HONORS

- 2016 *EATCS Fellow* for “*fundamental contributions to the design and analysis of algorithms for solving theoretical and applied problems in graphs and massive data sets, and for his role in establishing the field of algorithm engineering*”.
- 2011 Best Paper Award at the *8th Symposium on String Processing and Information Retrieval (SPIRE 2011)*.
- 1997 *Distinguished Visiting Professor.* Max-Planck-Institut für Informatik, Saarbrücken, Germany.
- 1988 - 91 IBM Graduate Fellowship.
- 1986 - 87 Italian National Research Council Fellowship.

## EDITORIAL ACTIVITIES

### Journal Editorial Boards

- 2008–2014 Editor-in-Chief, *ACM Journal on Experimental Algorithmics*
- 2007– Associate Editor, *Algorithmica*
- 2002– Associate Editor, *Theoretical Computer Science*, Track A
- 2008–2010 Associate Editor, *Journal of Discrete Algorithms*
- 1999–2008 Editor-in-Chief, *Journal of Discrete Algorithms*
- 1999–2008 Associate Editor, *ACM Journal on Experimental Algorithmics*
- 1995–2007 Associate Editor, *Journal of Complexity*
- 1997–2003 Associate Editor, *Discrete Mathematics and Theoretical Computer Science*
- 1995–2003 Associate Editor, *Journal of Computing and Information*

### Journal Guest Editor

1. *Algorithmica*, vol. 73(4), 2015. Special issue on the 21st European Symposium on Algorithms.
2. *Journal of Discrete Algorithms*, vol. 7(3), 2009. Special issue on the 6th Int. Conf. on Algorithms and Complexity.
3. *Theoretical Computer Science*, vol. 380 (1–2), 2007. Special issue on the 32nd Int. Coll. on Automata, Languages and Programming.
4. *ACM Journal on Experimental Algorithmics*. Special issue on the 6th Workshop on Algorithm Engineering and Experimentation.
5. *Journal of Discrete Algorithms*, Special Issue, vol. 4 (3), September 2006.
6. *Journal of Algorithms*, 49, 1 (2003). Special Issue on the European Symposium on Algorithms 98.
7. *Algorithmica* vol. 30 (4), 2001, Special issue on Algorithm Engineering.
8. *Journal on Complexity* 15 (1), 1999. Festschrift for Zvi Galil.
9. *ACM Journal on Experimental Algorithmics* 3 (1998). Special Issue on the Workshop on Algorithm Engineering 1997.
10. *Theoretical Computer Science* 130 (1), 1994. Special Issue on Dynamic and On-line Algorithms.

## KEYNOTE LECTURES

### Invited Lectures at International Schools

1. *Summer school ADDICTION: Addressing Difficult problems in a Computationally Tractable fashION*, in Lisbon, Portugal, 16–21 November 2014.
2. *3rd School on Graph Theory, Algorithms and Applications*, Erice, Italy, 8–16 September, 2014.
3. *Microsoft School on Algorithms and Systems for Large Datasets*, Moscow, Russia, July 31 – August 7, 2013.
4. *17th Estonian Winter School in Computer Science (EWSCS)*, Palmse, Estonia, February 26 – March 2, 2012 .
5. *Microsoft Data Structures and Algorithms School (MIDAS)*, St. Petersburg, Russia, August 8-14, 2010.
6. *School on Graph Theory, Algorithms and Applications*, Erice, Italy, 8–16 September, 2008.
7. *20th International School on Algorithms: Science and Engineering*, Lipari, Italy, July 13 – July 26, 2008.
8. *Summer School on Shortest Paths - Between Algorithms and Optimization (PATH05)*, July 4-8, 2005, Copenhagen, Denmark.

### Invited Lectures at Conferences

1. *24th Annual European Symposium on Algorithms (ESA 2016)*, Aarhus, Denmark August 22–24, 2016.
2. *27th International Workshop on Combinatorial Algorithms (IWOCA 2016)*, Helsinki, Finland, August 17–19, 2016.
3. *10th International Workshop on Algorithms and Computation (WALCOM 2016)*, March 29–31, 2016 Kathmandu, Nepal.
4. *25th International Symposium on Algorithms and Computation (ISAAC 2014)*, December 15–17, 2014 Jeonju, Korea.
5. *Theoretical Computer Science (TCS 2014)*, September 1–3, 2014, Rome, Italy.
6. *NATO Technology for Information, Decision and Execution Superiority (TIDE) Sprint*, 16-20 April 2012. Utrecht, The Netherlands.
7. *38th International Conference on Current Trends in Theory and Practice of Computer Science (SOFSEM 2012)*, January 21-27, 2012, Špindlerův Mlýn, Czech Republic.
8. *7th International Conference on Algorithms and Complexity (CIAC 2010)*, May 26-28, 2010 Rome, Italy.
9. *4th International Symposium on Experimental Algorithms (SEA 2010)*, Ischia, Italy, May 20-22 2010.
10. *12th International Conference on Principles and Practice of Constraint Programming (CP 2006)*, September 25-29, 2006, Nantes, France.
11. *ALGO 2005 (Joint Symposium and Workshops: ESA 2005, WABI 2005, WAOA 2005, ATMOS 2005)*, 3-7 October 2005, Palma de Mallorca, Spain.
12. *3rd Workshop on Experimental Algorithms (WEA 04)*, May 25–28 2004, Angra dos Reis, Brazil.
13. *11th International Symposium on Graph Drawing (GD 2003)*, September 21–24 2003, Perugia, Italy.
14. *14th Australasian Workshop on Combinatorial Algorithms (AWOCA 2003)*, July 13–16 2003, Seoul, Korea.
15. “Silver Jubilee”, *25th International Symposium on Mathematical Foundations of Computer Science (MFCS 2000)*, August 28 – September 1, 2000, Bratislava, Slovakia.
16. *Workshop on Advances in Data Structures*, December 11–12 1999, Chennai, India.

17. Workshop on Dynamic Graph Problems, *Thematic Programme on Graph Theory and Combinatorial Optimization*, June 5–9, 2000, Victoria, Canada.
18. “Fundamentals” Track (Foundations of Computer Science), *15th IFIP World Computer Congress* (IFIP 98), August 31 – September 4, 1998, Vienna (Austria), 1998.
19. *1st South American Workshop on String Processing* (WSP 93), 13-15 September 1993, Belo Horizonte, Brazil, 1993.
20. *20th Theory Day* at Columbia University, New York, U.S.A., 1992.

## ADVISORY BOARDS, STEERING COMMITTEES, TASK GROUPS

- 2012–2015 Steering Committee Member of the *European Symposium on Algorithms* (ESA), **Chair** from 2013.
- 2012–2014 Member of the NATO RTO Task Group “Trusted Information Sharing for Partnerships” (IST-114).
- 2010– Steering Committee Member of the *International Conference on Algorithms and Complexity* (CIAC).
- 2009– *Member of the Advisory Board*. MADALGO - Center for MASSive Data ALGORITHmics, Aarhus, Denmark.
- 2007–2010 Steering Committee Member of the *European Symposium on Algorithms* (ESA).
- 2005– Steering Committee Member of the *Workshop/Symposium on Experimental Algorithms* (WEA / SEA).
- 2004–2007 Steering Committee Member of the *Workshop on Algorithm Engineering and Experimentation* (ALENEX).
- 1997–2000 Steering Committee Member of the *Workshop on Algorithm Engineering* (WAE).
- 1997–2000 Steering Committee Member of the *European Symposium on Algorithms* (ESA).

## PROGRAM COMMITTEES

### Program Committee Member / Chair

1. *27th International Symposium on Algorithms and Computation* (ISAAC 2016), Sydney, Australia, Dec 12–14, 2016.
2. *24th Annual European Symposium on Algorithms* (ESA 2016), Aarhus, Denmark August 22–24, 2016.
3. *27th Annual Symposium on Combinatorial Pattern Matching* (CPM 2016), Tel Aviv, Israel, June 27–29, 2016
4. *12th Latin American Theoretical Informatics Symposium* (LATIN 2016), Ensenada, Mexico, April 11-15, 2016.
5. *27th ACM-SIAM Symposium on Discrete Algorithms* (SODA 2016), Arlington, Virginia, USA, January 10-12, 2016.
6. **Program Committee Co-Chair**, *15th Workshop on Algorithmic Approaches for Transportation Modeling, Optimization, and Systems* (ATMOS 2015), Patras, Greece, 17 September 2015.
7. *7th Workshop on Massive Data Algorithmics* (MASSIVE 2015), Patras, Greece, 17 September 2015.
8. **Program Committee Co-Chair**, *40th International Symposium on Mathematical Foundations of Computer Science* (MFCS 2015) Milan, Italy, August 24–28, 2015.
9. **Program Committee General Chair**, *41st International Conference on Current Trends in Theory and Practice of Computer Science*, (SOFSEM 2015), January 2015.
10. *41st International Colloquium on Automata, Languages, and Programming* (ICALP 14), Track A, Copenhagen, Denmark, July, 2014.

11. **Program Chair**, *21st Annual European Symposium on Algorithms*, (ESA 2013) Track B, Sophia Antipolis, France, 2–6 September, 2013.
12. **Global Chair**, *19th International European Conference on Parallel and Distributed Computing* (Euro-Par 2013), Topic 12 “Theory and Algorithms for Parallel Computation”, Aachen, Germany, August 26–30, 2013.
13. **Executive Committee Member**, *45th ACM Symposium on Theory of Computing* (STOC 2013), Palo Alto, CA, June, 1-4, 2013
14. **Program Chair**, *39th International Conference on Current Trends in Theory and Practice of Computer Science*, (SOFSEM 2013), Track “Foundations of Computer Science”, January 26–31, 2013.
15. *1st Mediterranean Conference on Algorithms* (MEDALG 2012), Ein-Gedi, Israel, December 3–5, 2012.
16. *International Workshop on Data Analytics and Mining in the Cloud*, Taipei, Taiwan, December 3–6, 2012.
17. *43rd Annual Conference of the Italian Operational Research Society* (AIRO 2012), Vietri sul Mare, September 4-7 2012.
18. *37th International Symposium on Mathematical Foundations of Computer Science* (MFCS 2012) Bratislava, Slovakia, August 27–31, 2012.
19. *8th Conf. on Next Generation Internet Networks* (NGI 2012), Blekinge Institute of Technology, Karlskrona, Sweden, June 25–27, 2012.
20. *13th Scandinavian Symposium and Workshops on Algorithm Theory* (SWAT 2012), Helsinki, Finland, 4–6 July 2012.
21. *9th International Conference on Integration of Artificial Intelligence and Operations Research Techniques in Constraint Programming* (CPAIOR 2012), Nantes, France, May 28 – June 1, 2012.
22. *12th Algorithms and Data Structure Symposium* (WADS 2011), Brooklyn, NY, USA, August 15–17, 2011.
23. *4th International Conference on Contemporary Computing* (IC3 2011), Noida, Uttar Pradesh, India, August 8–11, 2011.
24. *7th Conf. on Next Generation Internet Networks* (NGI 2011), Kaiserslautern, Germany, 27–29 June 2011.
25. *21st International Symposium of Algorithms and Computation* (ISAAC 2010), Jeju island, Korea, December 15–17, 2010.
26. *37th International Colloquium on Automata, Languages, and Programming* (ICALP 10), Track A, Bordeaux, France, 5–12 July, 2010.
27. *36th International Workshop on Graph Theoretic Concepts in Computer Science* (WG 10), Zaros, Crete, Greece, June 28–30, 2010.
28. *6th Conf. on Next Generation Internet Networks* (NGI 10), Paris, France, June 2–4, 2010.
29. *12th Workshop on Algorithm Engineering and Experimentation* (ALENEX 10) Austin, Texas, January 16 2010.
30. *17th Annual European Symposium on Algorithms*, (ESA 09), Copenhagen, Denmark, 7–9 September, 2009.
31. *34th International Symposium on Mathematical Foundations of Computer Science*, (MFCS 09), Novy Smokovec, High Tatras, Slovakia, August 24–28, 2009
32. *5th IEEE Conf. on Next Generation Internet Networks* (NGI 09), Aveiro, Portugal, 22–24 June 2009.
33. *8th International Symposium on Experimental Algorithms*, (SEA 09), Dortmund, Germany, June 3-6, 2009.
34. *3rd International Workshop on Algorithms and Complexity*, (WALCOM 09), Kolkata, India, 18-20 February, 2009.

35. *35th International Conference on Current Trends in Theory and Practice of Computer Science* (SOFSEM 09), Špindlerův Mlýn, Czech Republic, January 24-30, 2009.
36. *5th IFIP International Conference on Theoretical Computer Science* (TCS 08), Track A, Milano, Italy, 8-10 September, 2008.
37. *35th International Colloquium on Automata, Languages, and Programming* (ICALP 08), Track A, Reykjavik, Iceland, 7-11 July, 2008.
38. *4th IEEE Conf. on Next Generation Internet Networks* (NGI 08), Kraków, Poland, 28–30 April 2008.
39. **Program Co-Chair**, *10th Italian Conference on Theoretical Computer Science*, (ICTCS 07), Rome, Italy, 3–6 October, 2007.
40. *32nd International Symposium on Mathematical Foundations of Computer Science* (MFCS 07), Cesky Krumlov, Czech Republic, 27–31 August, 2007.
41. *6th Workshop on Experimental Algorithms* (WEA 07), Rome, Italy, 6–9 June, 2007.
42. *3rd Int. Conference on Algorithmic Aspects in Information and Management* (AAIM'07), Portland, USA, 6–8 June, 2007.
43. *3rd IEEE Conf. on Next Generation Internet Networks – Traffic Engineering* (NGI 07), Tondheim, Norway, 23–25 May 2007.
44. **Program Chair**, *33rd International Conference on Current Trends in Theory and Practice of Computer Science*, (SOFSEM 07), Track “Foundations of Computer Science”, Harrachov, Czech Republic, January 20-26, 2007.
45. *25th Int. Conference on Foundations of Software Technology and Theoretical Computer Science* (FSTTCS 06), Calcutta, India, 13–15 December 2006.
46. *2nd Int. Conference on Algorithmic Aspects in Information and Management* (AAIM'06), Hong Kong, 20–22 June 2006.
47. **Program Chair**, *6th Int. Conference on Algorithms and Complexity* (CIAC 06), Rome, Italy, 29–31 May 2006.
48. *IEEE Conf. on Next Generation Internet Networks – Traffic Engineering* (NGI 06), Valencia, Spain, April 2006.
49. **Program Chair**, *32nd International Colloquium on Automata, Languages, and Programming*, (ICALP 05), Track A, Lisbon, Portugal, 11–15 July 2005.
50. *4th Workshop on Efficient and Experimental Algorithms* (WEA 05), Santorini, Greece, May 10–13, 2005.
51. *IEEE Conf. on Next Generation Internet Networks – Traffic Engineering* (NGI 05), Rome, Italy, April 18–20, 2005.
52. *16th ACM-SIAM Symposium on Discrete Algorithms* (SODA 05), Vancouver, Canada, January 23–35, 2005.
53. *45th IEEE Symposium on Foundations of Computer Science*, (FOCS 04), Rome, Italy, 17–19 October 2004.
54. *12th European Symposium on Algorithms*, (ESA 2004), Engineering and Application Track, Bergen, Norway, September 13–18 2004.
55. *31st International Colloquium on Automata, Languages, and Programming*, (ICALP 04), Turku, Finland, July 2004.
56. **Program Co-Chair**, *6th Workshop on Algorithm Engineering and Experimentation* (ALENEX 04) New Orleans, LA, January 2004.
57. *8th Workshop on Algorithms and Data Structures* (WADS 2003), Carleton, Canada, July 30 - August 1, 2003.
58. *8th Scandinavian Workshop on Algorithm Theory* (SWAT 2002), Turku, Finland, 3–5 July 2002.
59. *7th Italian Conference on Theoretical Computer Science* (ICTCS 2001), Torino, Italy, 4-6 October 2001.

60. 5th International Workshop on Discrete Algorithms and Methods for Mobile Computing and Communication (DIALM 2001), Rome Italy, 26 July 2001.
61. 28th International Colloquium on Automata, Languages, and Programming (ICALP 01), Crete, Grece, 8–12 July 2001.
62. 11th Annual International Symposium on Algorithms and Computation (ISAAC 2000), Academia Sinica, Taiwan, 18–20 December 2000.
63. 4th Italian Conference on Algorithms and Complexity (CIAC 2000), Rome, Italy, 1–2 March 2000.
64. 3rd Workshop on Algorithm Engineering (WAE 99), London, UK, 19–21 July 1999.
65. 7th European Symposium on Algorithms (ESA 99), Prague, Czech Republic, July 1999.
66. 1st Workshop on Algorithm Engineering and Experimentation (ALENEX 99) Baltimore, MD, January 15-16, 1999.
67. 6th Italian Conference on Theoretical Computer Science (ICTCS 98), Prato, Italy, 9–11 November 1998.
68. **Program Co-Chair**, *6th European Symposium on Algorithms (ESA 98)*, Venice, Italy, 24–26 August 1998.
69. Electronic commerce for Small and Medium Enterprises (CABOTO 98), Venice, Italy, 26–27 February 1998.
70. 15th Symposium on Theoretical Aspects of Computer Science (STACS 98), Paris, France, 25–27 February 1998.
71. **Program Chair**, *1st Workshop on Algorithm Engineering (WAE 97)*, Venice, Italy, 11–13 September 1997.
72. 5th Israeli Symposium on Theory of Computing and Systems (ISTCS 97), Ramat–Gan, Israel, 17–19 June 1997.
73. 3rd Italian Conference on Algorithms and Complexity (CIAC 97), Rome, Italy, 12–14 March 1997.
74. 3rd European Symposium on Algorithms (ESA 95), Corfu, Greece, 25-27 September 1995.
75. 4th Scandinavian Workshop on Algorithm Theory (SWAT 94), Aarhus, Denmark, 7-9 July 1994.

#### **Organizing Committee Chair**

1. *45th Annual Symposium on Foundations of Computer Science (FOCS 2004)*, Rome, Italy, October 2004.
2. 6th European Symposium on Algorithms (ESA 98), Venice, Italy, 24–26 August 1998.

#### **Other Workshops and Schools Organized**

1. 8th Workshop on “Algorithm and Data Structures”, June 5-9, 2017, Bertinoro, Italy. Co-organized with Andrew Goldberg, Valerie King, Robert E. Tarjan.
2. “School on Graph Theory, Algorithms and Applications”, Center “Ettore Majorana” for Scientific Culture, Erice (Italy), 5–13 May 2017. Co-organized with Raffaele Cerulli, Andrew Goldberg, Robert E. Tarjan.
3. Dagstuhl Seminar on “Geometric and Graph-based Approaches to Collective Motion”, Workshop, Schloß Dagstuhl, Germany, January 10-15, 2016. (Co-organized with Bettina Speckmann, Guy Theraulaz and Mark van Kreveld).
4. “School on Graph Theory, Algorithms and Applications”, Center “Ettore Majorana” for Scientific Culture, Erice (Italy), 8 –16 September 2014. Co-organized with Raffaele Cerulli, Andrew Goldberg, Robert E. Tarjan.
5. “Horn formulas, directed hypergraphs, lattices and closure systems: related formalisms and applications”, Workshop, Schloß Dagstuhl, Germany, May 11-16, 2014. Co-organized with Kira Adaricheva, Hans Kleine Büning, György Turan.
6. “Algorithm Engineering”, Workshop, Schloß Dagstuhl, Germany, September 23–27, 2013. Co-organized with Andrew Goldberg, David S. Johnson, Dorothea Wagner.

7. 6th Workshop on “Algorithm and Data Structures”, June 2-7, 2013, Bertinoro, Italy. Co-organized with Andrew Goldberg, Valerie King, Robert E. Tarjan.
8. “School on Graph Theory, Algorithms and Applications”, Center “Ettore Majorana” for Scientific Culture, Erice (Italy), 25 September – 3 October, 2011. Co-organized with Raffaele Cerulli, Andrew Goldberg, Kurt Mehlhorn, Robert E. Tarjan.
9. “Algorithm Engineering”, Workshop, Schloß Dagstuhl, Germany, June 27 – July 2, 2010 Co-organized with David S. Johnson, Petra Mutzel, Peter Sanders.
10. 4th Workshop on “Algorithm and Data Structures”, June 7–12, 2009, Bertinoro, Italy. Co-organized with Andrew Goldberg, Valerie King, Robert E. Tarjan.
11. “School on Graph Theory, Algorithms and Applications”, Center “Ettore Majorana” for Scientific Culture, Erice (Italy), 8–16 September, 2008. Co-organized with Raffaele Cerulli, Andrew Goldberg, Robert E. Tarjan.
12. “Algorithm Engineering”, Mathematisches Forschungsinstitut Oberwolfach (Germany), 6–12 May 2007 (Oberwolfach Workshop). Co-organized with Petra Mutzel, Peter Sanders, Martin Skutella.
13. 2nd Workshop on “Algorithm and Data Structures”, May 29 - June 4, 2005, Bertinoro, Italy. Co-organized with Andrew Goldberg.
14. Workshop on “Algorithm and Data Structures”, June 23–28, 2003, Bertinoro, Italy. Co-organized with Camil Demetrescu.
15. “Summer School on Algorithm Engineering”, Rome, Italy, September 10–12, 2001 Co-organized with Giovanni Rinaldi.
16. “Efficient Algorithms”, Mathematisches Forschungsinstitut Oberwolfach (Germany), 6–12 August 2000 (Oberwolfach Workshop). Co-organized with Susanne Albers, Torben Hagerup, Kurt Mehlhorn

## PH.D. STUDENTS

### Graduated

- |      |   |
|------|---|
| 2001 | Camil Demetrescu, “Fully Dynamic Algorithms for Path Problems on Directed Graphs”. Now Associate Professor at “Sapienza” University of Rome.  |
| 2003 | Gianluigi Me, “Mobile transactions security”. Now Lieutenant Colonel in the Italian Carabinieri police.   |
| 2004 | Fabrizio Grandoni, “Exact Algorithms for Hard Graph Problems”. Now Senior Researcher at IDSIA, University of Lugano, Switzerland.   |
| 2006 | Maurizio A. Strangio, “Two-Party Cryptographic Protocols for Authentication and Key Agreement with Applications to Mobile Computing”. Now Lieutenant Colonel in the Italian Carabinieri police. |
| 2009 | Fabio Dellutri, “Profiling Mobile Identities”. Now Founder and CEO of the startup <a href="http://voglioilruolo.it">voglioilruolo.it</a> .  |
| 2011 | Antonio Grillo, “Trasferring Identities to Mobile Devices (TIMiD)”. Now CEO at TrustMyPhone S.r.l.  |
| 2011 | Alessandro Lentini, “TUBA: Total User Behavioural Authentication”. Now Head of Consumer Solutions at TrustMyPhone S.r.l.  |
| 2011 | Vittorio Ottaviani “Open BAR - A New Approach to Mobile Backup And Restore”. Now Software Engineer at GTECH S.p.A.  |
| 2012 | Rosamaria Bertè. “Triage techniques applied to Digital Forensics”. Now Technical Manager at the Italian Corte dei Conti.  |
| 2014 | Marco Querini, “A New System for Securing Documents Through Their Entire Life Cycle”. Now Senior Manager at TrustMyPhone S.r.l.   |
| 2014 | Fabio Marturana, “Device Classification in Digital Forensic Triage”. Now Major in the Italian Carabinieri police.   |



2015 Federico Santaroni, “Reliability in public transport networks”.

### **Current**

2013– Giovanni Bottazzi, expected 2017.

2013– Nilakantha Paudel, expected 2017.

2014– Evgeniia Perehodko, expected 2018.

2015– Nikos Parotsidis, expected 2019.

2015– Leandro Ishi Soares De Lima (coadvised with Université Claude Bernard Lyon 1).

### **Member of Ph.D. Theses Committees**

2015 “Algorithms for computing the 2-vertex-connected components and the 2-blocks of directed graphs”, Raed Jaber, Technische Universität Ilmeau, Germany.

2015 “Faster Approximation Algorithms for Partially Dynamic Shortest Paths Problems”, Sebastian Krinninger, University of Vienna, Austria.

2015 “Dynamic Graph Algorithms for Connectivity Problems”, Jakub Łącki, University of Warsaw, Poland.

2015 “Algorithms and Data Structures for Strings, Points and Integers”, Søren Juhl Vind, Technical University of Denmark, Denmark.

2013 “Engineering Shortest-Path Algorithms for Dynamic Networks”, Mattia D’Emidio, University of L’Aquila, Italy.

2012 “Complex Networks: Algorithms, Analysis and Models”, Leonardo Lanzi, University of Florence, Italy.

2011 “Engineering Algorithms for Solving Geometric and Graph Problems on Large Data Sets”, Adan Cosgaya Lozano, Dalhousie University, Halifax, Nova Scotia, Canada.

2010 “Data Structures Libraries”, Leonor Frias, Universitat Politècnica de Catalunya, Barcelona, Spain.

2008 “Streaming Algorithms for Graph Problems” Andrea Ribichini, Department of Computer and System Science, University of Rome “La Sapienza”, Italy.

2007 “Contraintes de Partitionnement de Graphs”, Xavier Lorca, Ecole Nationale Supérieure des Techniques Industrielles et des Mines de Nantes, Nantes, France.

2007 “Hardware-Aware Algorithms and Data Structures”, Gabriel Moruz, BRICS, Department of Computer Science, University of Aarhus, Denmark.

2006 “Dynamic and Static Graph Algorithms”, Liam Roditty, School of Computer Science, Tel Aviv University, Israel.

2005 “Experimental Analysis of Graph Algorithms”, Pompeo Faruolo, Department of Computer Science, University of Salerno, Italy.

2000 “Tracking Causality in Distributed Computations”, Giovanna Melideo, Department of Computer and System Science, University of Rome “La Sapienza”, Italy.

1999 “Computing with Trees”, Stephen Alstrup, Department of Computer Science, University of Copenhagen, Denmark.

1997 “Designing Efficient Parallel Algorithms of Graph Problems”, Weifa Liang, Department of Computer Science, Australian National University, Australia.

1997 “Dynamic computation”, Thore Husfeldt, Department of Computer Science, University of Aarhus, Denmark.

1997 “Does the cubicity help to solve problems?”, Tiziana Calamoneri, Department of Computer Science, University of Rome “La Sapienza”, Italy.

### **Member of Habilitation Committees**

1998 Dr. Karsten Weihe, Faculty of Mathematics and Computer Science, University of Konstanz, Germany.

## **EVALUATOR/REVIEWER FOR FUNDING AGENCIES**

*European Union* under FP7-ICT-2011 and FP6-IST-2007

*US National Science Foundation (NSF)*

*Danish Research Councils,*

*Israel Science Foundation (ISF)*

*Natural Sciences and Engineering Research Council of Canada (NSERC)*

## **RESEARCH FUNDING**

- 2015-17 SELEX S.p.A., Grant on "Tools and Techniques for the Analysis of Criminal Networks" (Principal Investigator).
- 2015 Elettronica S.p.A., Grant on "Automatic Coverage Planning" (Principal Investigator).
- 2014-16 Italian Ministry of Education, University and Research, PRIN 2012 Project AMANDA (Algorithmics for MASSive and Networked DATA).
- 2013-14 Mashfrog S.p.A., Grant on "Wine Web 2.0: Innovative algorithms for mobile transactions" (Principal Investigator).
- 2012-13 TrustMyPhone S.r.l., Grant on "My Mobile Enterprise (MYME)" (Principal Investigator).
- 2012-13 FILAS S.p.A., Grant on "Mobile solutions for e-Health (HE.Mob.TV)" (Principal Investigator).
- 2011 Elettronica S.p.A., Grant on "Cyber Threats" (Principal Investigator).
- 2011 Elettronica S.p.A., Grant on "OODA Loops" (Principal Investigator).
- 2011 Elettronica S.p.A., Grant on "HLA Federated Simulator for Network Centric Scenarios" (Principal Investigator).
- 2011 Land S.r.l., Grant on "High Capacity Color 2D Barcodes" (Principal Investigator).
- 2010-12 European Union, Grant on Secure Imprint GeNERated for papEr Documents (SIGNED), Project No. 262448, FP7-SME-2010-1 (Principal Co-Investigator).
- 2010-12 Italian Ministry of Education, University and Research, PRIN 2008 Project AlgoDEEP: Algorithmic Challenges for Data-intensive Processing on Emerging Computing Platforms (Principal Co-Investigator).
- 2010-11 Biofly S.r.l., Grant on Virtual Black Box (Principal Investigator).
- 2010 Elettronica S.p.A., Grant on Simulators for Mobile Ad Hoc Networks (Principal Investigator).
- 2008-11 European Union, Network of Excellence EuroNF: Network of Excellence on Anticipating the Network of the Future - From Theory to Design.
- 2008-09 Elettronica S.p.A., Grant on Benchmarking for Single Board Computers (Principal Investigator).
- 2008-09 Biofly S.r.l., Grant on Security for Adhoc Networks (Principal Investigator).
- 2008 Zeta Reticuli S.r.l., Grant on Mobile Security (Principal Investigator).
- 2007-08 Spike Replay S.r.l., Grant on Digital Signatures for SMS on smart phones (Principal Investigator).
- 2007-08 Telefono Azzurro Onlus, Grant on Web Security (Principal Investigator).
- 2007-09 Italian Ministry of Education, University and Research, PRIN 2006 Project MAINSTREAM: Algorithms for Massive Information Structures and Data Streams (Principal Co-Investigator).

- 2006-08 European Union, Network of Excellence EuroFGI: Design and Engineering the Future Generation Internet - Towards convergent multi-service networks.
- 2005-06 FILAS S.p.A., Finanziaria Laziale di Sviluppo, Project WEPSS: Web Platform for Secure Sharing of Data and Applications (Principal Investigator).
- 2004-06 Italian Ministry of Education, University and Research, PRIN 2004 Project ALGO-NEXT: Algorithms for Next Generation Internet and Web (Principal Co-Investigator).
- 2004 Land S.r.l.: Grant on “Security issues for paper documents” (Principal Investigator).
- 2003-06 European Union, Network of Excellence EuroNGI: Design and Engineering the Next Generation Internet.
- 2002-04 Italian Ministry of Education, University and Research, PRIN 2002 Project on Algorithms for Internet and Web (Principal Co-Investigator).
- 2001-02 CNR, Italian National Research Council, Contract n. 01.00690.CT26 (Principal Investigator).
- 2001-02 Special Research Grant from University of Rome “Tor Vergata” on Algorithmic software for timetabling (Principal Co-Investigator).
- 2001-02 ENEA, Italian Agency for New Technologies, Energy and Environment, Grant on “Design and Simulation of Innovative Transportation Systems” (Principal Investigator).
- 2000-01 CNR, Italian National Research Council, Contract n. 00.00346.CT26 (Principal Investigator).
- 2000-01 CNR, Italian National Research Council, Contract n. 99.00602.CT12 (Principal Investigator).
- 2000-01 Italian Ministry of University and Scientific Research, PRIN 1999 Project on “Algorithms for Large Data Sets: Science and Engineering”, (Principal Co-investigator).

Over the last five years (2011–2015) my average yearly grant income was EUR 333,592.40.

## **OTHER FUNDING**

- 2001-04 Appointed by University of Rome “Tor Vergata” as responsible for the *Campus One* infrastructural grant: total funding was approximately ITL 3.5 billions.

## **TALKS AND SEMINARS**

Some universities and research institutions in which I have given talks (most of them more than once):

AT&T Bell Labs, Brooklyn Polytechnic, Brown University, Columbia University, Cornell University, ETH Zurich, Hong Kong University of Science and Technology, IASI-CNR Rome, IBM ECSEC Rome, IBM T.J. Watson Research Center, Max-Planck Institute für Informatik, Polytechnic of Milan, Seoul National University, Universität Bonn, Universität des Saarlandes, University of Aarhus, University of California at Santa Barbara, University of Copenhagen, University of Illinois at Chicago, University of L’Aquila, University of Maryland, University of Padova, University of Palermo, University of Pisa, University of Rochester, University of Rome “La Sapienza”, University of Salerno, University of Trento, Yale University.

## PUBLICATIONS LIST

### Books and Conference Proceedings

- [1] G. F. Italiano, M. Schmidt (Eds.): *15th Workshop on Algorithmic Approaches for Transportation Modelling, Optimization, and Systems*, ATMOS 2015, September 17, 2015, Patras, Greece. OASICS 48, Schloss Dagstuhl - Leibniz-Zentrum fuer Informatik 2015, ISBN 978-3-939897-99-6.
- [2] G. F. Italiano, G. Pighizzini, D. Sannella (Eds.): *Mathematical Foundations of Computer Science 2015 - 40th International Symposium*, MFCS 2015, Milan, Italy, August 24-28, 2015, Proceedings, Part I. *Lecture Notes in Computer Science 9234*, Springer 2015, ISBN 978-3-662-48056-4.
- [3] G. F. Italiano, G. Pighizzini, D. Sannella (Eds.): *Mathematical Foundations of Computer Science 2015 - 40th International Symposium*, MFCS 2015, Milan, Italy, August 24-28, 2015, Proceedings, Part II. *Lecture Notes in Computer Science 9235*, Springer 2015, ISBN 978-3-662-48053-3
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## Journal Special Issues

- [19] K. Adaricheva, H. K. Büning, G. F. Italiano, György Turan. *Special issue on ‘Horn Formulas, Directed Hypergraphs, Lattices and Closure Systems: related formalisms and applications’*, to appear in *Theoretical Computer Science*.
- [20] H. L. Bodlaender, M. T. Hajiaghayi, G. F. Italiano, *Special issue on the 21st Annual European Symposium on Algorithms*, *Algorithmica* vol. 73(4), 2015.
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- [31] D. Firmani, L. Georgiadis, G. F. Italiano, L. Laura, F. Santaroni, “Strong Articulation Points and Strong Bridges in Large Scale Graphs”, *Algorithmica*, vol. 74 (3), 1123–1147, 2016.
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#### Journal Submissions

- [94] P. Crescenzi, R. Grossi, G. F. Italiano, “Augmenting Search Trees with Variable-Length Keys for Fast Searching and Sorting of Strings”, submitted for publication.
- [95] S. Bhattacharya, M. Henzinger, G. F. Italiano, “Deterministic fully dynamic data structures for vertex cover and matching”, submitted for publication.
- [96] L. Allulli, D. Firmani, G. F. Italiano, L. Laura, F. Santaroni, “Exploiting Real-Time Data in Public Transport Journey Planners: a Case Study”, submitted for publication.
- [97] S. Bhattacharya, M. Henzinger, G. F. Italiano, “Design of Dynamic Algorithms via Primal-Dual Schema”, submitted for publication.
- [98] L. Georgiadis, G. F. Italiano, L. Laura, N. Parotsidis, “2-Vertex Connectivity in Directed Graphs”, submitted for publication.
- [99] L. Georgiadis, G. F. Italiano, L. Laura, N. Parotsidis, "2-Edge Connectivity in Directed Graphs", submitted for publication.
- [100] L. Georgiadis, G. F. Italiano, C. Papadopoulos, N. Parotsidis, “Approximating the Smallest Spanning Subgraph for 2-Edge-Connectivity in Directed Graphs”, submitted for publication.

#### Refereed Encyclopedia and Handbook Chapters

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- [126] D. Eppstein, Z. Galil, R. Giancarlo, G. F. Italiano, “Efficient Algorithms for Sequence Analysis”, *Sequences: Methods in Communications, Security and Computer Science* (R. Capocelli, A. De Santis, U. Vaccaro eds.), Springer-Verlag, Berlin, 1993, pagg. 225–244.

## Reviewed Conference Publications

- [127] L. Georgiadis, G. F. Italiano, C. Papadopoulos, N. Parotsidis, “Approximating the Smallest Spanning Subgraph for 2-Edge-Connectivity in Directed Graphs”. *Proc. 23rd Annual European Symposium on Algorithms (ESA 2015)*, September 14-16 2015, Patras, Greece.
- [128] G. Bottazzi, G. F. Italiano, “Fast Mining of Large-Scale Logs for Botnet Detection: A Field Study”. *Proc. 13th IEEE International Conference on Dependable, Autonomic and Secure Computing*, Liverpool, United Kingdom, October 26-28, 2015, 1989–1996.
- [129] S. Bhattacharya, M. Henzinger, G. F. Italiano, “Design of Dynamic Algorithms via Primal-Dual Schema”. *Proc. 42nd International Colloquium on Automata, Languages, and Programming (ICALP 2015)*, 6-10 July 2015, Kyoto, Japan, 206–218. <sup>2</sup>
- [130] L. Georgiadis, G. F. Italiano, L. Laura, N. Parotsidis, “2-Vertex Connectivity in Directed Graphs”. *Proc. 42nd International Colloquium on Automata, Languages, and Programming (ICALP 2015)*, 6-10 July 2015, Kyoto, Japan, 605–617. <sup>3</sup>
- [131] S. Bhattacharya, M. Henzinger, G. F. Italiano, “Deterministic fully dynamic data structures for vertex cover and matching”. *Proc. 26th ACM-SIAM Symposium on Discrete Algorithms (SODA 2015)*, San Diego, USA, 4–6 January 2015, 785–804.
- [132] L. Georgiadis, G. F. Italiano, L. Laura, N. Parotsidis, "2-Edge Connectivity in Directed Graphs". *Proc. 26th ACM-SIAM Symposium on Discrete Algorithms (SODA 2015)*, San Diego, USA, 4–6 January 2015, 1988–2005.
- [133] W. Di Luigi, L. Georgiadis, G. F. Italiano, L. Laura, N. Parotsidis, “2-Connectivity in Directed Graphs: An Experimental Study”. *Proc 17th Algorithm Engineering and Experiments (ALENEX 2015)*, San Diego, USA, 5 January 2015, 173–187.
- [134] D. Firmani, G. F. Italiano, L. Laura: The (not so) Critical Nodes of Criminal Networks. *SocInfo Workshop on Criminal Network Analysis and Mining (CRIMENET 2014)*, Barcelona, Spain, November 11, 2014, 87–96.
- [135] D. Delling, G. F. Italiano, T. Pajor, F. Santaroni, “Better transit routing by exploiting vehicle GPS data”. *Proc. 7th ACM SIGSPATIAL International Workshop on Computational Transportation Science (IWCTS 2014)*, November 4, 2014, Dallas, TX, USA, 31–40.
- [136] M. Querini, M. Gattelli, V. M. Gentile, G. F. Italiano, “Handwritten Signature Verification with 2D Color Barcodes”. *Proc. 2014 Federated Conference on Computer Science and Information Systems (FedCSIS 2014)*, Warsaw, Poland, 7–10 September, 2014, pages 701–708. IEEE 2014. <sup>4</sup>
- [137] D. Firmani, G. F. Italiano, M. Querini, “Engineering Color Barcode Algorithms for Mobile Applications”. *Proc. 13th International Symposium on Experimental Algorithms*, (SEA 2014), June 29– July 1st 2014, Copenhagen, Denmark, 211–222.
- [138] L. Allulli, G. F. Italiano, F. Santaroni, “Exploiting GPS Data in Public Transport Journey Planners”. *Proc. 13th International Symposium on Experimental Algorithms*, (SEA 2014), June 29– July 1st 2014, Copenhagen, Denmark, 295–306.
- [139] M. Querini, G. F. Italiano, “Color Classifiers for 2D Color Barcodes”. *Proc. 2013 Federated Conference on Computer Science and Information Systems (FedCSIS 2013)*, Kraków, Poland, September 8-11, 2013. **Best Paper Award** in the conference. <sup>5</sup>
- [140] D. Firmani, G. F. Italiano, L. Laura, F. Santaroni, “Is Timetabling Routing Always Reliable for Public Transport?”, *Proc. 13th Workshop on Algorithmic Approaches for Transportation Modelling, Optimization, and Systems (ATMOS 2013)*, September 5, 2013, Sophia Antipolis, France, 15–26.
- [141] G. Ausiello, P. G. Franciosa, G. F. Italiano, A. Ribichini, “On resilient graph spanners”, *Proc. 23rd Annual European Symposium on Algorithms (ESA 2013)*, Sophia Antipolis, France, 2–6 September, 2013, 85–96.

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<sup>2</sup>Paper invited to the conference special issue in the journal *Information and Computation*.

<sup>3</sup>Paper invited to the conference special issue in the journal *Information and Computation*.

<sup>4</sup>Paper invited to the conference special issue in the *International Journal of Computer Science and Applications*.

<sup>5</sup>Paper invited to the conference special issue in the journal *Computer Science and Information Systems*.

- [142] L. Georgiadis, G. F. Italiano, L. Laura, F. Santaroni, "An Experimental Study of Dynamic Dominators", *Proc. 22nd Annual European Symposium on Algorithms (ESA 2012)*, September 9-14 2012, Ljubljana, Slovenia, 491–502.
- [143] M. Querini, G. F. Italiano, "Facial Biometrics for 2D Barcodes". *Proc. 2012 Federated Conference on Computer Science and Information Systems (FedCSIS 2012)*, Wroclaw, Poland, September 9-12, 2012, 755-762. <sup>6</sup>
- [144] S. Salcedo-Sanz, L. Carro-Calvo, A. Portilla-Figueras, M. Naldi, L. Laura, G. F. Italiano, "Traffic vs Topology in Network Clustering: Does it Matter?". *Proc. 8th International Wireless Communications and Mobile Computing Conference (IWCMC 2012)*, Limassol, Cyprus, August 27-31, 2012.
- [145] D. Firmani, G. F. Italiano, L. Laura, A. Orlandi, F. Santaroni, "Computing Strong Articulation Points and Strong Bridges in Large-Scale Graphs". *Proc. 11th International Symposium on Experimental Algorithms, (SEA 2012)*, June 9–12 2012, Bordeaux, France, 195–207.
- [146] G. Ausiello, G. F. Italiano, L. Laura, U. Nanni, F. Sarracco, "Structure Theorems for Optimum Hyperpaths in Directed Hypergraphs". *Proc. 2nd International Symposium on Combinatorial Optimization, (ISCO 2012)*, April 19–21 2012, Athens, Greece, 1–14.
- [147] G. F. Italiano "Strong Bridges and Strong Articulation Points of Directed Graphs". *Proc. 38th International Conference on Current Trends in Theory and Practice of Computer Science (SOFSEM 2012)*, January 21-27, 2012, Špindlerův Mlýn, Czech Republic. *Lecture Notes in Computer Science*, vol. 7147, 43.
- [148] D. Breslauer, G. F. Italiano, "Near Real-Time Suffix Tree Construction via the Fringe Marked Ancestor Problem", *Proc. 18th International Symposium on String Processing and Information Retrieval (SPIRE 2011)*, Pisa, Italy, October 17–21, 2011. *Lecture Notes in Computer Science*, vol. 7024, 156–167. **Best Paper Award** in the conference. <sup>7</sup>
- [149] D. Breslauer, G. F. Italiano, "On Suffix Extensions in Suffix Trees", *Proc. 18th International Symposium on String Processing and Information Retrieval (SPIRE 2011)*, Pisa, Italy, October 17–21, 2011. *Lecture Notes in Computer Science*, vol. 7024, 301–312.
- [150] S. Tortora, D. Cannone, M. Giovacchini, G. F. Italiano, M. Naldi, A. Sindico, "Distributed Simulation of EW Command and Control Scenarios", *Proc. Int. Defense and Homeland Security Simulation Workshop (DHSS 2011)*, Rome, Italy, 12–14 September 2011, 71–76.
- [151] D. Cannone, G. F. Italiano, M. Naldi, A. Brancaleoni, "A simulator of a mobile ad-hoc network in a hostile environment", *Proc. 1st International Conference on Simulation and Modeling Methodologies, Technologies and Applications (SIMULTECH 2011)*, Noordwijkerhout, The Netherlands, 29–31 July, 2011.
- [152] S. Salcedo-Sanz, L. Carro-Calvo, A. Portilla-Figueras, M. Naldi, L. Laura, G. F. Italiano, "An Evolutionary Algorithm for Network Clustering through Traffic Matrices". *Proc. 7th International Wireless Communications and Mobile Computing Conference (IWCMC 2011)*, Istanbul, Turkey, July 5-8, 2011, 1580–1584.
- [153] G. F. Italiano, Y. Nussbaum, P. Sankowski, C. Wulff-Nilsen, "Improved algorithms for min cut and max flow in undirected planar graphs". *Proc. 43rd ACM Symposium on Theory of Computing (STOC 2011)*, San Jose, California, USA, June 6-8, 2011, 313–322.
- [154] M. Naldi, A. Pavignani, A. Grillo, A. Lentini, G. F. Italiano, "The Competitor Busting strategy in keyword auctions: who's worst hit?", *Proc. 9th Annual Conference on Communication Networks and Services Research (CNSR 2011)*, Ottawa, Ontario, Canada, May 2–4, 2011, IEEE Computer Society Press, 153–160.
- [155] M. Naldi, A. Pavignani, A. Grillo, A. Lentini, G. F. Italiano, "A model for the dynamics of bidders in the simulation of keyword auctions" *Proc. 12th International Conference on Computer Modelling and Simulation (UKSIM 2011)*, Cambridge, UK, March 30 – April 1st, 2011, 440–445.
- [156] V. Ottaviani, A. Lentini, A. Grillo, S. Di Cesare, G. F. Italiano, "Shared Backup & Restore", *Proc. 4th IFIP International Conference on New Technologies, Mobility and Security (NTMS 2011)*, Paris, France, February 7–10, 2011, 1–5 .

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<sup>6</sup>Paper invited to the conference special issue in the *International Journal of Computer Science and Applications*.

<sup>7</sup>Paper invited to the conference special issue in the *Journal of Discrete Algorithms*.

- [157] G. F. Italiano, L. Laura, F. Santaroni, "Finding strong articulation points and strong bridges in linear time", *Proc. 4th Annual International Conference on Combinatorial Optimization and Applications (COCOA'10)*, Big Island, Hawaii, USA, December 18-20, 2010. *Lecture Notes in Computer Science*, vol. 6508, 157–169.<sup>8</sup>
- [158] A. Grillo, A. Lentini, V. Ottaviani, G. F. Italiano, F. Battisti, "SAVED: Secure Android Value added services", *Proc. 2nd International ICST Conference on Mobile Computing, Applications, and Services (MobiCASE 2010)*, Santa Clara, CA, USA, October 25-28, 2010.
- [159] A. Grillo, A. Lentini, M. Querini, G. F. Italiano, "High Capacity Colored Two Dimensional Codes", *Proc. International Multiconference on Computer Science and Information Technology (IMCSIT 2010)*, Wisla, Poland, October 18-20, 2010, 709–716.<sup>9</sup>
- [160] G. Ausiello, P. G. Franciosa, G. F. Italiano, A. Ribichini, "Computing Graph Spanners in Small Memory: Fault-Tolerance and Streaming", *Proc. 6th Annual International Computing and Combinatorics Conference (COCOON 2010)*, Nha Trang, Vietnam, July 19 – 21, 2010, 160–172<sup>10</sup>.
- [161] L. Laura, M. Naldi, G. F. Italiano, "Traffic-based Network Clustering", *Proc. 6th International Wireless Communications and Mobile Computing Conference (IWCMC 2010)*, Caen, France, June 28 - July 2, 2010, 321-325.
- [162] G. F. Italiano, "Resilient Algorithms and Data Structures", INVITED LECTURE, *Proc. 7th International Conference on Algorithms and Complexity (CIAC 2010)*, Rome, Italy, May 26-28, 2010. *Lecture Notes in Computer Science* vol. 6078, Springer-Verlag, Berlin, 2010, 13–24.
- [163] U. Ferraro Petrillo, I. Finocchi, G. F. Italiano, "Experimental Study of Resilient Algorithms and Data Structures", INVITED LECTURE, *Proc. 4th International Symposium on Experimental Algorithms (SEA 2010)*, Ischia, Italy, May 20-22 2010, 1–12.
- [164] U. Ferraro Petrillo, F. Grandoni, G. F. Italiano, "Data Structures Resilient to Memory Faults: An Experimental Study of Dictionaries", *Proc. 4th International Symposium on Experimental Algorithms (SEA 2010)*, Ischia, Italy, May 20-22 2010, 398-410<sup>11</sup>.
- [165] A. Grillo, A. Lentini, G. Naldi, G. F. Italiano, "Penalized Second Price: A New Pricing Algorithm for Advertising in Search Engines", *Proc. 8th Annual Conference on Communication Networks and Services Research (CNSR 2010)*, Montreal, Canada, May 11–14, 2010, 207-214, IEEE Computer Society Press.
- [166] A. Distefano, A. Grillo, A. Lentini, G. F. Italiano, "SecureMyDroid: Enforcing Security in the Mobile Devices Lifecycle", *Proc. 6th Annual Cyber Security and Information Intelligence Research Workshop (CSIIRW 2010)*, Oak Ridge, TN, USA, April 21 - 23, 2010, 27:1–4.
- [167] F. Dellutri, L. Laura, V. Ottaviani, G. F. Italiano, "Extracting Social Networks from Seized Smartphones and Web Data", *Proc. 1st IEEE Int. Workshop on Information Forensics and Security (WIFS 09)*, London, UK, December 6–9, 2009, 101–105.
- [168] F. Dellutri, V. Ottaviani, D. Bocci, G. F. Italiano, G. Me, "Data reverse engineering on a smartphone", *Proc. Int. Conference on Ultra Modern Telecommunications (ICUMT 09)*, St. Petersburg, Russia, October 12–14, 2009, 1–8.
- [169] P. Spallaccini, F. Iovine, G. F. Italiano, "An Automatized Methodology Design For Real-Time Signal Processing Applications in Multiple Multi-Core Platforms". *Proc. IEEE International Conference on Multimedia & Expo (ICME 2009)* New York, NY, June 28 - July 3, 2009, 1829–1832.
- [170] A. Grillo, A. Lentini, G. Me, G. F. Italiano, "Transaction oriented text messaging with Trusted-SMS", *Proc 24th Annual Computer Security Applications Conference (ACSAC)*, Anaheim (CA), USA, December 8–12, 2008, 485–494.
- [171] G. S. Brodal, R. Fagerberg, I. Finocchi, F. Grandoni, G. F. Italiano, A. G. Jørgensen, G. Moruz, T. Mølhave, "Optimal Resilient Dynamic Dictionaries", *Proc. 15th Annual European Symposium on Algorithms (ESA 07)*, Eilat, Israel, October 8-10, 2007, *Lecture Notes in Computer Science*, Springer-Verlag, Berlin, 2007, 347–358.

<sup>8</sup>Paper invited to the conference special issue in the journal *Theoretical Computer Science*.

<sup>9</sup>Paper invited to the conference special issue in the *International Journal of Computer Science and Applications*.

<sup>10</sup>Paper invited to the conference special issue in the journal *Discrete Mathematics, Algorithms and Applications*.

<sup>11</sup>Paper invited to the conference special issue in the *ACM Journal on Experimental Algorithmics*.

- [172] G. Ausiello, C. Demetrescu, P. G. Franciosa, G. F. Italiano, A. Ribichini, “Small Stretch Spanners in the Streaming Model: New Algorithms and Experiments”, *Proc. 15th Annual European Symposium on Algorithms (ESA 07)*, Eilat, Israel, October 8-10, 2007, *Lecture Notes in Computer Science*, Springer-Verlag, Berlin, 2007, 605–617<sup>12</sup>.
- [173] F. Dellutri, S. Di Blasi, G. F. Italiano, “Transparent File Protection in On-Demand Computing”, *Proc. 2007 Int. Conf. on Grid Computing and Applications (GCA’07)* Las Vegas, NV, USA, June 25–28, 2007, pp. 116–122.
- [174] I. Finocchi, F. Grandoni, G. F. Italiano, “Resilient Search Trees”. *Proc. 18th ACM-SIAM Symposium on Discrete Algorithms (SODA 07)*, New Orleans, LA, January 7-9, 2007, pp. 547–554.
- [175] F. Grandoni, G. F. Italiano, “Improved Approximation for Single-Sink Buy-at-Bulk”. *Proc. 17th International Symposium on Algorithms and Computation (ISAAC 2006)*, Kolkata, India, December 18-20, *Lecture Notes in Computer Science*, Springer-Verlag, Berlin, 111–120.
- [176] F. Grandoni, G. F. Italiano, “Algorithms and Constraint Programming”. INVITED LECTURE, *Proc. 12th Int. Conf. on Principles and Practice of Constraint Programming (CP 2006)*, France, September 26–29, 2006, *Lecture Notes in Computer Science* vol. 4204, Springer-Verlag, Berlin, 2006, 2–14.
- [177] C. Demetrescu, P. Faruolo, G. F. Italiano, M. Thorup, “Does Path Cleaning Help in Dynamic All-Pairs Shortest Paths?”, *Proc. 14th Annual European Symposium on Algorithms (ESA 2006)*, Zürich, Switzerland, 11-13 September 2006, *Lecture Notes in Computer Science*, Springer-Verlag, Berlin, 2006, 732–743.
- [178] U. Ferraro Petrillo, I. Finocchi, G. F. Italiano, “The Price of Resiliency: A Case Study on Sorting with Memory Faults”, *Proc. 14th Annual European Symposium on Algorithms (ESA 2006)*, Zürich, Switzerland, 11-13 September 2006, *Lecture Notes in Computer Science*, Springer-Verlag, Berlin, 2006, 768–779.<sup>13</sup>
- [179] I. Finocchi, F. Grandoni, G. F. Italiano, “Optimal Resilient Sorting and Searching in the presence of Dynamic Memory Faults”, *Proc. 33rd International Colloquium on Automata, Languages, and Programming (ICALP 06)*, Venice, Italy, 9–16 July 2006, *Lecture Notes in Computer Science* vol. 4051, Springer-Verlag, Berlin, 2006, 286–298<sup>14</sup>.
- [180] C. Demetrescu, G. F. Italiano, “Algorithmic Techniques for Maintaining Shortest Routes in Dynamic Networks”, INVITED LECTURE, *Proc. 2nd Workshop on Cryptography for Ad Hoc Networks (WCAN 2006)*, *Electronic Notes in Theoretical Computer Science*, 171 (1), 3–15, 2007.
- [181] S. Armenia, A. Iovanella, G. F. Italiano, G. Murgia, “Using social network analysis for the study of asynchronous interaction in e-learning”, *Proc. International Conference on e-Learning (ICEL 2006)*, Montreal, Canada, June 22-23 , 2006, 207–216.
- [182] V. Bonifaci, C. Demetrescu, I. Finocchi, G. F. Italiano, L. Laura, “Portraying algorithms with Leonardo Web”, *Proc. Int. Workshop on Web-based Learning*, November 20-22, 2005, vol. 3807, Springer-Verlag, Berlin, 2005 73–83.
- [183] I. Finocchi, F. Grandoni, G. F. Italiano, “Designing reliable algorithms in unreliable memory”. INVITED LECTURE, *Proc. 13th Annual European Symposium on Algorithms (ESA 2005 - Design and Analysis track)*, Spain, 3-6 October 2005, 1–8.
- [184] G. Ausiello, P. G. Franciosa, G. F. Italiano, “Small stretch spanners on dynamic graphs”. *Proc. 13th Annual European Symposium on Algorithms (ESA 2005 - Design and Analysis track)*, Spain, 3-6 October 2005, 532–543.
- [185] G. Cattaneo, U. Ferraro Petrillo, P. Faruolo, G. F. Italiano, “JIVE: Java Interactive software Visualization Environment ”. *Proc. 20th IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC 04)*, Rome, Italy, September 26-29, 2004, 41–43.
- [186] G. Me, P. Spagnoletti, G. F. Italiano, “GSM and GPRS Performance of IPSEC Data Communication”. *Proc. International Conference on E-Business and Telecommunications Networks (ICETE 2004)*, Setubal, Portugal, August 25–28, 2004, 3-11. **Best Paper Award** in the conference.

<sup>12</sup>Paper invited to the conference special issue in the journal *Algorithmica*.

<sup>13</sup>Paper invited to the conference special issue in the journal *Algorithmica*.

<sup>14</sup>Paper invited to the conference special issue in the journal *Theoretical Computer Science*.

- [187] F. Grandoni, G. F. Italiano, “Decremental Clique Problem”. *Proc. 30th Int. Workshop on Graph-Theoretic Concepts in Computer Science* (WG 04), Bad Honnef, Bonn, Germany, June 21–23, 2004, *Lecture Notes in Computer Science* vol. 3353, Springer-Verlag, Berlin, 2004, 142–153.
- [188] N. Apollonio, M. Caramia, G. F. Italiano, “A Stochastic Location Problem with Applications to Telediagnosics”. *Proc. 30th Int. Workshop on Graph-Theoretic Concepts in Computer Science* (WG 04), Bad Honnef, Bonn, Germany, June 21–23, 2004, *Lecture Notes in Computer Science* vol. 3353, Springer-Verlag, Berlin, 2004, 201–213.
- [189] I. Finocchi, G. F. Italiano, “Sorting and searching in the presence of memory faults (without redundancy)”. *Proc. 36th Annual ACM Symposium on Theory of Computing* (STOC 04), Chicago, IL, June 13-15, 2004, 101–110.
- [190] C. Demetrescu, G. F. Italiano, “Engineering shortest path algorithms”. INVITED LECTURE, *3rd Proc. Workshop on Experimental Algorithms* (WEA 04), May 25–28 2004, Angra dos Reis, Brazil, 191–198.
- [191] C. Demetrescu, S. Emiliozzi, G. F. Italiano, “Experimental Analysis of Dynamic All Pairs Shortest Path Algorithms” *Proc. 15th ACM-SIAM Symposium on Discrete Algorithms* (SODA 04), New Orleans, LA, January 11-13, 2004, 362–371<sup>15</sup>.
- [192] C. Demetrescu, I. Finocchi, G. F. Italiano, “Engineering and visualizing algorithms”. INVITED LECTURE, *Proc. 11th Symposium on Graph Drawing* (GD 03), Perugia, Italy, 21–24 September 2003, *Lecture Notes in Computer Science* vol. 2912, Springer-Verlag, Berlin, 2004, 519–513.
- [193] F. Grandoni, G. F. Italiano, “Improved Algorithms for Max Restricted Path Consistency”, *Proc. 9th Int. Conf. Principles and Practice of Constraint Programming* (CP 2003), Kinsale, Ireland, *Lecture Notes in Computer Science* vol. 2833, Springer-Verlag, Berlin, 2003, 858–862.
- [194] C. Demetrescu, G. F. Italiano, “A new approach to dynamic all pairs shortest paths”. *Proc. 35th Annual ACM Symposium on Theory of Computing* (STOC 03), San Diego, CA, 9-11 June 2003, 159–166.
- [195] P. Crescenzi, R. Grossi, G. F. Italiano, “Search Data Structures for Skewed Strings”. *Proc. 2nd Int. Workshop on Experimental and Efficient Algorithms* 26–28 May 2003, Monte Verità, Ascona, Switzerland, 81–96.
- [196] G. F. Italiano, S. Leonardi, G. Oriolo, “Design of networks in the hose model”, *Proc. 3rd Workshop on Approximation and Randomization Algorithms in Communication Networks* (ARACNE 02), Rome, September 2002.
- [197] C. Demetrescu, G. F. Italiano, “Improved Bounds and New Trade-Offs for Dynamic Shortest Paths”. *Proc. 29th International Colloquium on Automata, Languages, and Programming* (ICALP 02), Malaga, Spain, 8–13 July 2002, *Lecture Notes in Computer Science* vol. 2380, Springer-Verlag, Berlin, 2002, 633–643.
- [198] G. F. Italiano, R. Rastogi, B. Yener, “Restoration Algorithms for Virtual Private Networks in the Hose Model”. *Proc. IEEE INFOCOM 2002*, 21st Annual Joint Conf. of the IEEE Computer and Communications Societies, New York, U.S.A., 23–27 June 2002.
- [199] G. Cattaneo, P. Faruolo, U. Ferraro Petrillo, G. F. Italiano, “Maintaining Dynamic Minimum Spanning Trees: An Experimental Study”. *Proc. 4th Workshop on Algorithm Engineering and Experiments* (ALENEX 02) January 6–8, 2002, San Francisco, U.S.A. *Lecture Notes in Computer Science*, Springer-Verlag, Berlin, 2002, 111–125.
- [200] C. Demetrescu, G. F. Italiano, “Fully Dynamic All Pairs Shortest Paths with Real Edge Weights”. *Proc. 42nd IEEE Annual Symp. on Foundations of Computer Science* (FOCS 2001), Las Vegas, NV, U.S.A., October 14-17, 2001, 260–267.<sup>16</sup>
- [201] G. F. Italiano, S. Leonardi, G. Oriolo, “Network design with the HOSE model”, *Proc. XXII Conferenza Annuale della Società Italiana di Ricerca Operativa* (AIRO 2001), Cagliari, 4-7 Settembre 2001.

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<sup>15</sup>Paper invited to the conference special issue in the journal *ACM Transaction on Algorithms*.

<sup>16</sup>Paper invited to the conference special issue in the *Journal of Computer and System Sciences*.

- [202] M. Caramia, G. F. Italiano, G. Oriolo, A. Pacifici, A. Perugia, “Routing a Fleet of Vehicles for Combined Pick-up and Delivery Services”, *Symposium on Operations Research 2001*, Duisburg, Germany, 3-5 Sept. 2001, pp. 3–8, Springer-Verlag, Berlin, 2001.
- [203] C. Demetrescu, G. F. Italiano, “Dynamic Transitive Closure: Breaking Through the  $O(n^2)$  Barrier”. *Proc. 41st IEEE Annual Symp. on Foundations of Computer Science (FOCS 2000)*, Redondo Beach, CA, 12–14 November 2000, 381–389.
- [204] M. Caramia, P. Dell’Omo, G. F. Italiano, “New Algorithms for Examination Timetabling”. *Proc. 4th Workshop on Algorithm Engineering (WAE 2000)*, September 5–8 2000, Saarbrücken, Germany, *Lecture Notes in Computer Science* vol. 1982, pp. 230–242, Springer-Verlag, Berlin, 2001.
- [205] A. Caprara, G. F. Italiano, G. Mohan, A. Panconesi, A. Srinivasan, “Wavelength Rerouting in Optical Networks, or the Venetian Routing Problem”, *Proc. 3rd International Workshop on Approximation Algorithms for Combinatorial Optimization Problems (APPROX 2000)*, September 5–8, 2000, Saarbrücken, Germany, *Lecture Notes in Computer Science* vol. 1913, pp. 72–83, Springer-Verlag, Berlin, 2000.
- [206] C. Demetrescu, G. F. Italiano, “What Do We Learn from Experimental Algorithmics?” INVITED LECTURE, *Proc. 25th International Symposium on Mathematical Foundations of Computer Science (MFCS 2000)*, August 28 – September 1, 2000, Bratislava, Slovakia, *Lecture Notes in Computer Science*, Springer-Verlag, Berlin, 2000, pp. 36–51.
- [207] Y. Qin, B. Li, G. F. Italiano, “A Low Cost and Effective Heuristic Wavelength Assignment Algorithm in a Wide-Area WDM based All Optical Network”, *Proc. 14th International Conference on Information Networking (ICOIN-14)*, January 26–28 2000, Hsin-Chu, Taiwan, R.O.C.
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