

# Giuseppe F. Italiano

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## SHORT SUMMARY OF QUALIFICATIONS

### SCIENTIFIC PROFILE

My current position is (Full) Professor of Computer Science at Luiss University, Rome, Italy. I got a Ph.D. in Computer Science at Columbia University. My Ph.D. advisor was Zvi Galil, who has been named in 2021 the seventh most influential computer scientist over the past decade by Academic Influence. After my Ph.D., I worked as a Research Staff Member at the IBM T.J. Watson Research Center in Yorktown Heights (New York). When I was 33 years old, I won a National competition for Full Professor and went back to Italy, where I held positions as Professor of Computer Science in several universities (University of Salerno, University of Venice Ca’ Foscari, University of Rome Tor Vergata and Luiss University). I have worked on a wide variety of problems, producing highly-cited results on a number of different areas. Most of my research is centered around the design, analysis and engineering of algorithms for big data sets, with applications to several areas, including graph mining, social network analysis, computer and network security, machine learning and computational biology. My background, which includes also an experience in industrial research, puts me in a unique position to carry out work that combines basic research with a strong focus on applications.

I published about 300 papers, most of which in top journals and conferences in theoretical computer science / algorithms, such as *J. ACM*, *SIAM J. Comp.*, *J. Comput. Syst. Sci.*, *ACM Trans. on Alg.*, *Theor. Comp. Sci.*, and *ACM STOC*, *IEEE FOCS*, *ACM-SIAM SODA*, *ICALP* (in computer science, many top tier conferences are highly respected publication venues, arguably with journal-equivalent rankings). As of 2023 I have a total of 8,752 citations and h-index 46, calculated with Google Scholar.

Throughout the years, I coordinated many research teams and research projects: I was Principal Investigator (Coordinatore Nazionale) of several Italian PRIN projects (Progetti di Rilevante Interesse Nazionale) and of several European Projects. I have an extensive experience on research evaluation, as I was appointed to several research evaluations panels for the European Union and for the DFF (Danish Council for Independent Research). As a further indication of my international scientific stature, in 2011 I have been appointed to the Gödel Prize Committee; the Gödel Prize is the award given to outstanding papers in theoretical computer science, awarded annually since 1993 by the Association for Computing Machinery (ACM) and the European Association for Theoretical Computer Science (EATCS). In 2016 I was nominated *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*”. The *European Association for Theoretical Computer Science* (EATCS) is an international organization founded in 1972, and EATCS Fellows are recognized for their outstanding scientific achievements in theoretical computer science (as of 2023 there are only 35 EATCS Fellows in the world).

### PROFESSIONAL EXPERIENCE

In 2024 I was elected President of the European Association for Theoretical Computer Science (EATCS), a renowned international scientific organization founded in 1972. I have been Editor-in-Chief and Associate Editor of 8 international journals, and I have been member / chair of about 100 Program Committees (PC) of international conferences, including the most prestigious in theoretical computer science / algorithms (e.g., STOC, FOCS, SODA, ICALP). Those prestigious conferences have small PCs (around 20 members) compared to the number of submissions (typically several hundred papers), and so being in the PC of those conferences is highly selective. On another note, I strive to pursue research questions that are not only aca-

demically challenging, but also relate to important practical problems, and thus I have been actively working on the technology transfer of my research results: I co-founded two successful startups, TrustMyPhone (sold to an Italian company) and Wireless Lab (sold to a French company), and I was a member of the Advisory Board of RoboAdvisorCoin, a Robo-Advisor dedicated to cryptocurrencies, which was among the first to launch an ICO (Initial Coin Offering) in the EU zone. I have been Member of the Board of Directors of Consorzio Roma Ricerche, a consortium that supports and promotes technology transfer from research to industry. Currently, I am a Member of the Board of Directors of Funtech Games Ltd, London, UK. My interest in academic challenging yet practical problems is reflected also in my research funding, which comes not only from highly competitive grants from the European Union and the Italian Ministry of Education, University and Research (MIUR), but also from several industrial research contracts with large companies (e.g., ENI SpA, Leonardo Finmeccanica SpA, Microsoft, Elettronica SpA) and SMEs (e.g., BioFly, Land, Mashfrog, Spike Reply). Most of those projects were carried out as public-private research partnerships.

## **SENIOR MANAGEMENT**

Throughout the years I held several positions of high responsibility and I have been leading several complex organizations in universities. In Luiss, I am currently Deputy Rector for Artificial Intelligence and Digital Skills, and co-Director the Master in Cybersecurity, the Master in AI and the Master in Big Data and Management. Previously, I have been the Director of the Bachelor in Management and Computer Science, and of the Master of Science in Data Science and Management. I have been Chair of the Evaluation Committee (Presidente del nucleo di valutazione) at University of Rome Tor Vergata for 6 years, where I was responsible for evaluation (quality and effectiveness of courses offered and of the research activities carried out) and for strategic planning and control of the University. I have been Department Chair for 8 years: my Department had more than 120 professors, researchers, postdocs, Ph.D. students and administrative / tech staff, with an yearly budget (salary excluded) of the order of million euros. My responsibilities as Department Chair included providing leadership toward the achievement of excellence in teaching, research and service activities of the department, working with other Chairs and Deans to coordinate resource allocations and faculty hires, preparing and proposing budget requests, attracting research grants at the department level, administering the department budget and supervising the work of tech / administrative staff within the department. At University of Rome Tor Vergata I was the Rector's Delegate for Quality, Evaluation and Performance (Delegato del Rettore per la Qualità, Autovalutazione e Performance), and I was in charge of the evaluation, quality control and the strategic and performance planning of the University. I was also the Coordinator of the PhD Program in Computer Science, Control and Geoinformation at University of Rome Tor Vergata. In all those positions, I have been managing and leading large teams of professors, researchers and staff.

## **TEACHING**

I enjoy teaching and I have an extensive teaching experience with excellent results: I got the Teaching Excellence Award twice (for the academic years 2019-20 and 2021-22) in my University. In the last 20 years I have been always teaching at least 2-3 courses per year, both at the undergraduate (bachelor) and graduate (master) level. Most of the courses were in the area of algorithms and data structures but I also taught courses on several other topics, including introduction to computer programming, computer architecture, database systems and computer and network security. Last year, I was teaching the following courses at Luiss University: Algorithms, Artificial Intelligence & Machine Learning, Customer Intelligence and Big Data. I have been teaching also courses both at the undergraduate and graduate level for several universities worldwide (e.g., Aarhus University, Columbia University, University of Copenhagen, Hong Kong University of Science & Technology, Warsaw University) and I have been invited to lecture in several international Summer Schools.

## PERSONAL INFORMATION

Born in 1961. Italian Citizen. Married plus four. Enjoy running.

## EDUCATION

- 1988 - 1991 Ph.D. in Computer Science. Columbia University, New York, NY. PhD Advisor: Prof. Zvi Galil. Thesis Title: “Dynamic data structures for graphs”.
- 1990 M.Phil. Columbia University, New York, NY.
- 1987 - 1988 M.Sc. in Computer Science. Columbia University, New York, NY.
- 1979 - 1985 *Laurea summa cum laude* in Electronics Engineering. University of Rome “La Sapienza”, Roma, Italy. Thesis Advisor: Prof. Giorgio Ausiello.

## PRESENT POSITION

- 2024 - *Deputy Rector for Artificial Intelligence and Digital Skills.* Luiss University, Rome, Italy.
- 2018 - *Professor of Computer Science.* Luiss University, Rome, Italy.

## PREVIOUS POSITIONS

- 1998 - 2018 *Professor of Computer Science.* University of Rome Tor Vergata, Italy.
- 2004 - 2012 *Chair of the Department of Computer Science, Systems and Production.* University of Rome Tor Vergata.
- 1995 - 1998 *Professor of Computer Science.* University of Venice “Ca’ Foscari”, Italy.
- 1994 - 1995 *Professor of Computer Science.* University of Salerno, Italy.
- 1991 - 1995 *Research Staff Member.* IBM Research Division, T.J. Watson Research Center, *Communication Systems Department.*
- 1989 - 1994 *Assistant Professor.* University of Rome “La Sapienza”, Italy.

## OTHER APPOINTMENTS

- 2024 - *President,* European Association for Theoretical Computer Science.
- 2023 - *Member of the Technical Committee of the Italian Government for the impact of AI on the editorial system.*
- 2022 - *Member of the Scientific Committee,* Fondazione Ugo Bordoni.
- 2022 - *Member of the Ethics and Data Governance Board,* National Research Center in High-Performance Computing, Big Data and Quantum Computing.
- 2021 - 2024 *Member of the Board of Directors of Funtech Games Ltd., London, UK.*
- 2020 - 2024 *Vice-President,* European Association for Theoretical Computer Science.
- 2020 *Panel Member of the ERC Synergy Grant.*
- 2019 - 2023 *Member of the EATCS Fellow Selection Committee, Chair* in 2023.
- 2019 *Panel Member for Thematic research - Digital Technologiese.* Danish Council for Independent Research (DFF).
- 2017 - 2020 *Panel Member for Natural Sciences: Mathematics, Statistics and Computer Science.* Danish Council for Independent Research (DFF).
- 2017 - 2019 *Member of the ESA Test of Time Award Committee.*
- 2017 - 2019 *Member of the Advisory Board* of RoboAdvisorCoin, a Robo-Advisor dedicated to cryptocurrencies.
- 2017 - *Member of the Council,* European Association for Theoretical Computer Science.

- 2012 - 2018 *Member of the Board of Directors*. In-Time (<http://www.innovazioniperlaterra.org/>). Start-up focusing on information technologies for the environment.
- 2011 - 2014 *Member of the Gödel Award Committee*, **Chair** in 2014.
- 2009 - 2021 *Member of the Advisory Board*. MADALGO - Center for MASSive Data ALGORithmics, Aarhus, Denmark.
- 2009 - 2017 *Co-founder*, TrustMyPhone (<http://trustmyphone.com>). Start-up focusing on security for mobile devices.
- 2006 - 2013 *Member of the Council*. European Association for Theoretical Computer Science.
- 2002 - 2008 *Member of the Council*. European Association for Theoretical Computer Science, Italian Chapter.
- 2002 - 2016 *Co-founder*, Wireless Lab (<http://www.w-lab.it>). Start up focusing on wireless technologies and on pervasive and mobile computing.
- 2001 - 2007 *Member of the Board of Directors*. Roma Ricerche Consortium.

## OTHER ACADEMIC APPOINTMENTS

- 2024 - *Member of the Quality and Innovation Board*, Luiss University, Rome.
- 2023 - *Scientific Co-Director of the Master in Artificial Intelligence*, Luiss University, Rome.
- 2023 - *Member of the Scientific Committee*, Fondazione Astrid.
- 2023 - *Member of the Scientific Technical Committee*, Women4Cyber Italy.
- 2022 - *Member of the Executive Committee of the Master in Journalism*, Luiss University, Rome.
- 2020 - 2024 *Director of the Master of Science in Data Science and Management*, Luiss University, Rome.
- 2020 - 2024 *Director of the Executive Course on in NFT & Smart Contract Programming*, Luiss University, Rome.
- 2019 - *Scientific Co-Director of the Master in Cybersecurity*, Luiss University, Rome.
- 2019 - *Scientific Director of the Master in Big Data and Management*, Luiss Business School, Rome.
- 2019 - *Member of the Scientific Committee of ETHOS, Observatory for Ethics*, Luiss Business School, Rome.
- 2019 - *Member of the ALETHEIA Excellence Center*, Luiss , Rome.
- 2019 - 2024 *Member of the Quality Team*, Luiss University, Rome.
- 2018 - *Member of the Scientific Committee of the Luiss Data Lab*, Rome.
- 2018 - 2020 *Director of the Bachelor in Management and Computer Science*, Luiss University, Rome.
- 2017 - 2019 *Coordinator of the PhD Program in Computer Science, Control and Geoinformation*. University of Rome Tor Vergata.
- 2017 - *Member of the ERABLE team (European Research team in Algorithms and Biology, formaL and Experimental)*, Laboratoire de Biométrie et Biologie Évolutive (LBBE), UMR 5558, CNRS / University Claude Bernard (Lyon 1), Lyon, France.
- 2017 *Visiting Professor*. Laboratoire de Recherche en Informatique (LRI), Université Paris-Sud, France.
- 2013 - 2018 *Rector's Delegate for Quality, Evaluation and Performance*. University of Rome Tor Vergata.
- 2012 - 2015 *Member of the Scientific Committee*, CeRSI, Research Center in Information Systems, Luiss University, Rome.

- 2002 - 2008 *Chair of the Evaluation Committee.* University of Rome Tor Vergata.
- 2001 - 2004 *Coordinator* for the *Campus One* infrastructural grant at University of Rome Tor Vergata. Total funding was approximately ITL 3.5 billions.
- 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.

## PRIZES AND AWARDS

- 2022 Research Excellence Award, Luiss University.
- 2022 Teaching Excellence Award for a.y. 2021-22, Luiss University.
- 2022 - 2025 Research Profile Award, Luiss University.
- 2020 Teaching Excellence Award for a.y. 2019-20, Luiss University.
- 2018 Best Paper Award at the *26th European Symposium on Algorithms (ESA 2018)*.
- 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 - 1991 IBM Graduate Fellowship.
- 1986 - 1987 Italian National Research Council Fellowship.

## COMPETITIVE RESEARCH FUNDING

- 2023-25 Italian Ministry of University and Research, PRIN 2022 Project EXPAND: scalable algorithms for EXPLoratory Analyses of heterogeneous and dynamic Networked Data (Principal Co-Investigator).
- 2022-25 Eni SpA, Grant on “Artificial Intelligence, Machine Learning, Cybersecurity” (Principal Investigator).
- 2019-23 Italian Ministry of Education, University and Research, PRIN 2017 Project AHeAD: efficient Algorithms for HARnessing networked Data (Principal Investigator, Coordinatore Nazionale).
- 2018 Bridgestone Open Innovation: Digital Innovation for Driving (Principal Investigator).
- 2015-17 Leonardo Finmeccanica 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 (Principal Co-Investigator).
- 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 Investigator, Coordinatore Nazionale).
- 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 my average yearly grant income was EUR 323,473.23.

## EDITORIAL BOARDS

### Journal Editorial Boards

- 2012– Associate Editor, *ACM Transactions on Algorithms*
- 2007– Associate Editor, *Algorithmica*
- 2002– Associate Editor, *Theoretical Computer Science*, Track A
- 2008–2017 Editor-in-Chief, *ACM Journal on Experimental Algorithmics*
- 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. *Theoretical Computer Science*, vol. 812 (1), 2020. Special issue in memoriam Danny Breslauer.
2. *Theoretical Computer Science*, vol. 658 (263), 2017. Special issue on ‘Horn Formulas, Directed Hypergraphs, Lattices and Closure Systems: related formalisms and applications’.
3. *Algorithmica*, vol. 73(4), 2015. Special issue on the 21st European Symposium on Algorithms.
4. *Journal of Discrete Algorithms*, vol. 7(3), 2009. Special issue on the 6th Int. Conf. on Algorithms and Complexity.
5. *Theoretical Computer Science*, vol. 380 (1–2), 2007. Special issue on the 32nd Int. Coll. on Automata, Languages and Programming.
6. *ACM Journal on Experimental Algorithmics*. Special issue on the 6th Workshop on Algorithm Engineering and Experimentation.
7. *Journal of Discrete Algorithms*, Special Issue, vol. 4 (3), September 2006.
8. *Journal of Algorithms*, 49, 1 (2003). Special Issue on the European Symposium on Algorithms 98.
9. *Algorithmica* vol. 30 (4), 2001, Special issue on Algorithm Engineering.
10. *Journal on Complexity* 15 (1), 1999. Festschrift for Zvi Galil.
11. *ACM Journal on Experimental Algorithmics* 3 (1998). Special Issue on the Workshop on Algorithm Engineering 1997.
12. *Theoretical Computer Science* 130 (1), 1994. Special Issue on Dynamic and On-line Algorithms.

## KEYNOTE LECTURES

### Opening Speech

1. Opening Speech (Prolusione) on “Artificial Intelligence and its multidisciplinary challenges”, Inauguration of the Academic Year 2018-2019 in the presence of the President of the Italian Republic, Luiss University, February 21, 2018.

### Invited Lectures at International Schools

1. *ADYN Summer School on Algorithm Engineering for Network Problems*, Potsdam, Germany, 19–22 September 2023.
2. *Metaheuristics Summer School*, Catania, Italy, 15–18 June 2021.
3. *Spring School on Algorithms, Optimization and Learning in Dynamic Environment*, Hanoi, Vietnam, 4–8 March 2019.
4. *Indo-German Spring School on Algorithms for Big Data*, Bombay, India, 18–22 February 2019.
5. *4th School on Graph Theory, Algorithms and Applications*, Erice, Italy, 5–13 May, 2017.

6. *Summer School ADDICTION: ADdressing DIfficult problems in a Computationally Tractable fashION*, in Lisbon, Portugal, 16–21 November 2014.
7. *3rd School on Graph Theory, Algorithms and Applications*, Erice, Italy, 8–16 September, 2014.
8. *Microsoft School on Algorithms and Systems for Large Datasets*, Moscow, Russia, July 31 – August 7, 2013.
9. *17th Estonian Winter School in Computer Science (EWSCS)*, Palmse, Estonia, February 26 – March 2, 2012 .
10. *Microsoft Data Structures and Algorithms School (MIDAS)*, St. Petersburg, Russia, August 8-14, 2010.
11. *School on Graph Theory, Algorithms and Applications*, Erice, Italy, 8–16 September, 2008.
12. *20th International School on Algorithms: Science and Engineering*, Lipari, Italy, July 13 – July 26, 2008.
13. *Summer School on Shortest Paths - Between Algorithms and Optimization (PATH05)*, July 4-8, 2005, Copenhagen, Denmark.

#### Invited Lectures at Conferences

1. *14th Computer Science Symposium in Russia (CSR 2019)*, Novosibirsk, Russia, July 1–5 2019.
2. *17th International Symposium on Experimental Algorithms (SEA 2018)*, L’Aquila, Italy, June 27–29 2018.
3. *10th International Conference on Algorithms and Complexity (CIAC 2017)*, Athens, Greece, May 24–26, 2017.
4. *24th Annual European Symposium on Algorithms (ESA 2016)*, Aarhus, Denmark August 22–24, 2016.
5. *27th International Workshop on Combinatorial Algorithms (IWOCA 2016)*, Helsinki, Finland, August 17–19, 2016.
6. *10th International Workshop on Algorithms and Computation (WALCOM 2016)*, March 29–31, 2016 Kathmandu, Nepal.
7. *25th International Symposium on Algorithms and Computation (ISAAC 2014)*, December 15–17, 2014 Jeonju, Korea.
8. *Theoretical Computer Science (TCS 2014)*, September 1–3, 2014, Rome, Italy.
9. *NATO Technology for Information, Decision and Execution Superiority (TIDE) Sprint*, 16-20 April 2012. Utrecht, The Netherlands.
10. *38th International Conference on Current Trends in Theory and Practice of Computer Science (SOFSEM 2012)*, January 21-27, 2012, Špindlerův Mlýn, Czech Republic.
11. *7th International Conference on Algorithms and Complexity (CIAC 2010)*, May 26-28, 2010 Rome, Italy.
12. *4th International Symposium on Experimental Algorithms (SEA 2010)*, Ischia, Italy, May 20-22 2010.
13. *12th International Conference on Principles and Practice of Constraint Programming (CP 2006)*, September 25-29, 2006, Nantes, France.
14. *ALGO 2005 (Joint Symposium and Workshops: ESA 2005, WABI 2005, WAOA 2005, ATMOS 2005)*, 3-7 October 2005, Palma de Mallorca, Spain.
15. *3rd Workshop on Experimental Algorithms (WEA 04)*, May 25–28 2004, Angra dos Reis, Brazil.
16. *11th International Symposium on Graph Drawing (GD 2003)*, September 21–24 2003, Perugia, Italy.
17. *14th Australasian Workshop on Combinatorial Algorithms (AWOCA 2003)*, July 13–16 2003, Seoul, Korea.
18. “Silver Jubilee”, *25th International Symposium on Mathematical Foundations of Computer Science (MFCS 2000)*, August 28 – September 1, 2000, Bratislava, Slovakia.

19. *Workshop on Advances in Data Structures*, December 11–12 1999, Chennai, India.
20. Workshop on Dynamic Graph Problems, *Thematic Programme on Graph Theory and Combinatorial Optimization*, June 5–9, 2000, Victoria, Canada.
21. “Fundamentals” Track (Foundations of Computer Science), *15th IFIP World Computer Congress (IFIP 98)*, August 31 – September 4, 1998, Vienna (Austria), 1998.
22. *1st South American Workshop on String Processing (WSP 93)*, 13-15 September 1993, Belo Horizonte, Brazil, 1993.
23. *20th Theory Day* at Columbia University, New York, U.S.A., 1992.

## STEERING COMMITTEES

- 2024– Steering Committee Member of the *International Colloquium on Automata, Languages and Programming (ICALP)*.
- 2023– Steering Committee Member of the *International Conference on Algorithms and Complexity (CIAC)*.
- 2018–2022 Steering Committee Member of the *International Colloquium on Automata, Languages and Programming (ICALP)*.
- 2017–2020 Steering Committee Member of the *Workshop on Algorithm Engineering and Experimentation (ALENEX)*.
- 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).
- 2010–2015 Steering Committee Member of the *International Conference on Algorithms and Complexity (CIAC)*.
- 2007–2010 Steering Committee Member of the *European Symposium on Algorithms (ESA)*.
- 2005–2019 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. *51st International Colloquium on Automata, Languages, and Programming (ICALP 2024)*, Tallinn, Estonia, July 8–12, 2024.
2. *31st European Symposium on Algorithms (ESA 2023)*, Amsterdam, The Netherlands, September 4–6, 2023.
3. *55th ACM Symposium on Theory of Computing (STOC 2023)*, Orlando, Florida, June 20-23, 2023.
4. *21st Symposium on Experimental Algorithms (SEA 2023)*, Barcelona, Spain, July 24-26, 2023.
5. *12th Latin-American Algorithms, Graphs and Optimization Symposium (LAGOS 2023)*, Huatulco, Mexico. September 18–22, 2023.
6. *6th Symposium on Simplicity in Algorithms (SOSA 2023)*, Florence, Italy, 23–24 January 2023.
7. *30th European Symposium on Algorithms (ESA 2022)*, Potsdam, Germany, September 5–7, 2022.

8. *7th Highlights of Algorithms Conference (HALG 2022)*, London, UK, 1–3 June 2022.
9. *33rd ACM-SIAM Symposium on on Discrete Algorithms (SODA 2022)*, Alexandria, Virginia, U.S., January 9–12 2022.
10. *28th International Symposium on String Processing and Information Retrieval (SPIRE 2021)*, October 4–6 2021, Lille.
11. *23rd International Symposium on Fundamentals of Computation Theory (FCT 2021)*, September 5–8 2021, Athens, Greece.
12. *32nd International Workshop on Combinatorial Algorithms (IWOCA 2021)*, July 5 - 8, 2021, Ottawa, Canada.
13. *SIAM Symposium on Simplicity in Algorithms (SOSA 2021)*, Alexandria, VA, USA, January 11–12, 2021.
14. *27th International Symposium on String Processing and Information Retrieval (SPIRE 2020)*, Orlando, FL, USA, October 13–15 2020.
15. **Program Co-Chair**, *8th Annual Privacy Forum (APF 2020)*, Lisbon, Portugal, 4–5 June 2020.
16. *Symposium on Algorithmic Approaches for Transportation Modelling, Optimization, and Systems (ATMOS 2019)*, Munich, Germany , 12–13 September 2019.
17. **Program Co-Chair**, *7th Annual Privacy Forum (APF 2019)*, Rome, Italy, 13–14 June 2019.
18. *11th International Conference on Algorithms and Complexity (CIAC 2019)*, Rome, Italy, 27–29 May 2019.
19. *29th International Symposium on Algorithms and Computation (ISAAC 2018)*, Jiaoxi, Yilan County, Taiwan, 2018.
20. *50th Annual ACM Symposium on the Theory of Computing (STOC 2018)*, Los Angeles, CA, USA, June 25–29, 2018.
21. *45th International Colloquium on Automata, Languages, and Programming (ICALP 2018)* Prague, Czech Republic, July 9–13, 2018.
22. *6th Annual Privacy Forum (APF 2018)*, Barcelona, Spain, 13–14 June 2018.
23. *12th International Conference and Workshop on Algorithms and Computation (WALCOM 2018)*, Dhaka, Bangladesh, March 3–5, 2018.
24. *24th Annual Symposium on String Processing and Information Retrieval (SPIRE 2017)*, Palermo, Italy, September 26–28, 2017.
25. *11th International Frontiers of Algorithmics Workshop (FAW 2017)*, Chengdu, Sichuan, China, June 23–25, 2017.
26. *34th International Symposium on Theoretical Aspects of Computer Science (STACS 2017)*, Hannover, Germany, March 8–11, 2017.
27. *27th International Symposium on Algorithms and Computation (ISAAC 2016)*, Sydney, Australia, Dec 12–14, 2016.
28. *24th Annual European Symposium on Algorithms (ESA 2016)*, Aarhus, Denmark August 22–24, 2016.
29. *27th Annual Symposium on Combinatorial Pattern Matching (CPM 2016)*, Tel Aviv, Israel, June 27–29, 2016
30. *4th International Symposium on Combinatorial Optimization (ISCO 2016)*, Vietri sul Mare, Italy, May 16–18, 2016.
31. *12th Latin American Theoretical Informatics Symposium (LATIN 2016)*, Ensenada, Mexico, April 11–15, 2016.
32. *27th ACM-SIAM Symposium on Discrete Algorithms (SODA 2016)*, Arlington, Virginia, USA, January 10–12, 2016.
33. **Program Committee Co-Chair**, *15th Workshop on Algorithmic Approaches for Transportation Modeling, Optimization, and Systems (ATMOS 2015)*, Patras, Greece, 17 September 2015.

34. *7th Workshop on Massive Data Algorithmics (MASSIVE 2015)*, Patras, Greece, 17 September 2015.
35. **Program Committee Co-Chair**, *40th International Symposium on Mathematical Foundations of Computer Science (MFCS 2015)* Milan, Italy, August 24–28, 2015.
36. **Program Committee General Chair**, *41st International Conference on Current Trends in Theory and Practice of Computer Science, (SOFSEM 2015)*, January 2015.
37. *41st International Colloquium on Automata, Languages, and Programming (ICALP 14)*, Track A, Copenhagen, Denmark, July, 2014.
38. **Program Chair**, *21st Annual European Symposium on Algorithms, (ESA 2013)* Track B, Sophia Antipolis, France, 2–6 September, 2013.
39. **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.
40. **Executive Committee Member**, *45th ACM Symposium on Theory of Computing (STOC 2013)*, Palo Alto, CA, June, 1-4, 2013
41. **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.
42. *1st Mediterranean Conference on Algorithms (MEDALG 2012)*, Ein-Gedi, Israel, December 3–5, 2012.
43. *International Workshop on Data Analytics and Mining in the Cloud*, Taipei, Taiwan, December 3–6, 2012.
44. *43rd Annual Conference of the Italian Operational Research Society (AIRO 2012)*, Vietri sul Mare, September 4-7 2012.
45. *37th International Symposium on Mathematical Foundations of Computer Science (MFCS 2012)* Bratislava, Slovakia, August 27–31, 2012.
46. *8th Conf. on Next Generation Internet Networks (NGI 2012)*, Blekinge Institute of Technology, Karlskrona, Sweden, June 25–27, 2012.
47. *13th Scandinavian Symposium and Workshops on Algorithm Theory (SWAT 2012)*, Helsinki, Finland, 4–6 July 2012.
48. *9th International Conference on Integration of Artificial Intelligence and Operations Research Techniques in Constraint Programming (CPAIOR 2012)*, Nantes, France, May 28 – June 1, 2012.
49. *12th Algorithms and Data Structure Symposium (WADS 2011)*, Brooklyn, NY, USA, August 15–17, 2011.
50. *4th International Conference on Contemporary Computing (IC3 2011)*, Noida, Uttar Pradesh, India, August 8–11, 2011.
51. *7th Conf. on Next Generation Internet Networks (NGI 2011)*, Kaiserslautern, Germany, 27–29 June 2011.
52. *21st International Symposium of Algorithms and Computation (ISAAC 2010)*, Jeju island, Korea, December 15–17, 2010.
53. *37th International Colloquium on Automata, Languages, and Programming (ICALP 10)*, Track A, Bordeaux, France, 5–12 July, 2010.
54. *36th International Workshop on Graph Theoretic Concepts in Computer Science (WG 10)*, Zaros, Crete, Greece, June 28–30, 2010.
55. *6th Conf. on Next Generation Internet Networks (NGI 10)*, Paris, France, June 2–4, 2010.
56. *12th Workshop on Algorithm Engineering and Experimentation (ALENEX 10)* Austin, Texas, January 16 2010.
57. *17th Annual European Symposium on Algorithms, (ESA 09)*, Copenhagen, Denmark, 7–9 September, 2009.

58. *34th International Symposium on Mathematical Foundations of Computer Science*, (MFCS 09), Novy Smokovec, High Tatras, Slovakia, August 24–28, 2009
59. *5th IEEE Conf. on Next Generation Internet Networks* (NGI 09), Aveiro, Portugal, 22–24 June 2009.
60. *8th International Symposium on Experimental Algorithms*, (SEA 09), Dortmund, Germany, June 3–6, 2009.
61. *3rd International Workshop on Algorithms and Complexity*, (WALCOM 09), Kolkata, India, 18–20 February, 2009.
62. *35th International Conference on Current Trends in Theory and Practice of Computer Science* (SOFSEM 09), Špindlerův Mlýn, Czech Republic, January 24–30, 2009.
63. *5th IFIP International Conference on Theoretical Computer Science* (TCS 08), Track A, Milano, Italy, 8–10 September, 2008.
64. *35th International Colloquium on Automata, Languages, and Programming* (ICALP 08), Track A, Reykjavik, Iceland, 7–11 July, 2008.
65. *4th IEEE Conf. on Next Generation Internet Networks* (NGI 08), Kraków, Poland, 28–30 April 2008.
66. **Program Co-Chair**, *10th Italian Conference on Theoretical Computer Science*, (ICTCS 07), Rome, Italy, 3–6 October, 2007.
67. *32nd International Symposium on Mathematical Foundations of Computer Science* (MFCS 07), Cesky Krumlov, Czech Republic, 27–31 August, 2007.
68. *6th Workshop on Experimental Algorithms* (WEA 07), Rome, Italy, 6–9 June, 2007.
69. *3rd Int. Conference on Algorithmic Aspects in Information and Management* (AAIM’07), Portland, USA, 6–8 June, 2007.
70. *3rd IEEE Conf. on Next Generation Internet Networks – Traffic Engineering* (NGI 07), Tondheim, Norway, 23–25 May 2007.
71. **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.
72. *25th Int. Conference on Foundations of Software Technology and Theoretical Computer Science* (FSTTCS 06), Calcutta, India, 13–15 December 2006.
73. *2nd Int. Conference on Algorithmic Aspects in Information and Management* (AAIM’06), Hong Kong, 20–22 June 2006.
74. **Program Chair**, *6th Int. Conference on Algorithms and Complexity* (CIAC 06), Rome, Italy, 29–31 May 2006.
75. *IEEE Conf. on Next Generation Internet Networks – Traffic Engineering* (NGI 06), Valencia, Spain, April 2006.
76. **Program Chair**, *32nd International Colloquium on Automata, Languages, and Programming*, (ICALP 05), Track A, Lisbon, Portugal, 11–15 July 2005.
77. *4th Workshop on Efficient and Experimental Algorithms* (WEA 05), Santorini, Greece, May 10–13, 2005.
78. *IEEE Conf. on Next Generation Internet Networks – Traffic Engineering* (NGI 05), Rome, Italy, April 18–20, 2005.
79. *16th ACM-SIAM Symposium on Discrete Algorithms* (SODA 05), Vancouver, Canada, January 23–35, 2005.
80. *45th IEEE Symposium on Foundations of Computer Science*, (FOCS 04), Rome, Italy, 17–19 October 2004.
81. *12th European Symposium on Algorithms*, (ESA 2004), Engineering and Application Track, Bergen, Norway, September 13–18 2004.
82. *31st International Colloquium on Automata, Languages, and Programming*, (ICALP 04), Turku, Finland, July 2004.

83. **Program Co-Chair**, *6th Workshop on Algorithm Engineering and Experimentation (ALENEX 04)* New Orleans, LA, January 2004.
84. *8th Workshop on Algorithms and Data Structures (WADS 2003)*, Carleton, Canada, July 30 - August 1, 2003.
85. 8th Scandinavian Workshop on Algorithm Theory (SWAT 2002), Turku, Finland, 3–5 July 2002.
86. 7th Italian Conference on Theoretical Computer Science (ICTCS 2001), Torino, Italy, 4-6 October 2001.
87. 5th International Workshop on Discrete Algorithms and Methods for Mobile Computing and Communication (DIALM 2001), Rome Italy, 26 July 2001.
88. 28th International Colloquium on Automata, Languages, and Programming (ICALP 01), Crete, Grece, 8–12 July 2001.
89. 11th Annual International Symposium on Algorithms and Computation (ISAAC 2000), Academia Sinica, Taiwan, 18–20 December 2000.
90. 4th Italian Conference on Algorithms and Complexity (CIAC 2000), Rome, Italy, 1–2 March 2000.
91. 3rd Workshop on Algorithm Engineering (WAE 99), London, UK, 19–21 July 1999.
92. 7th European Symposium on Algorithms (ESA 99), Prague, Czech Republic, July 1999.
93. 1st Workshop on Algorithm Engineering and Experimentation (ALENEX 99) Baltimore, MD, January 15-16, 1999.
94. 6th Italian Conference on Theoretical Computer Science (ICTCS 98), Prato, Italy, 9–11 November 1998.
95. **Program Co-Chair**, *6th European Symposium on Algorithms (ESA 98)*, Venice, Italy, 24–26 August 1998.
96. Electronic commerce for Small and Medium Enterprises (CABOTO 98), Venice, Italy, 26–27 February 1998.
97. 15th Symposium on Theoretical Aspects of Computer Science (STACS 98), Paris, France, 25–27 February 1998.
98. **Program Chair**, *1st Workshop on Algorithm Engineering (WAE 97)*, Venice, Italy, 11–13 September 1997.
99. 5th Israeli Symposium on Theory of Computing and Systems (ISTCS 97), Ramat-Gan, Israel, 17–19 June 1997.
100. 3rd Italian Conference on Algorithms and Complexity (CIAC 97), Rome, Italy, 12–14 March 1997.
101. 3rd European Symposium on Algorithms (ESA 95), Corfu, Greece, 25-27 September 1995.
102. 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 9-14, 2019, Bertinoro, Italy. Co-organized with Andrew Goldberg, Valerie King, Robert E. Tarjan.
2. 8th Workshop on “Algorithm and Data Structures”, June 12-16, 2017, Bertinoro, Italy. Co-organized with Andrew Goldberg, Valerie King, Robert E. Tarjan.
3. “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.

4. 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).
5. “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.
6. “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.
7. “Algorithm Engineering”, Workshop, Schloß Dagstuhl, Germany, September 23–27, 2013. Co-organized with Andrew Goldberg, David S. Johnson, Dorothea Wagner.
8. 6th Workshop on “Algorithm and Data Structures”, June 2-7, 2013, Bertinoro, Italy. Co-organized with Andrew Goldberg, Valerie King, Robert E. Tarjan.
9. “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.
10. “Algorithm Engineering”, Workshop, Schloß Dagstuhl, Germany, June 27 – July 2, 2010 Co-organized with David S. Johnson, Petra Mutzel, Peter Sanders.
11. 4th Workshop on “Algorithm and Data Structures”, June 7–12, 2009, Bertinoro, Italy. Co-organized with Andrew Goldberg, Valerie King, Robert E. Tarjan.
12. “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.
13. “Algorithm Engineering”, Mathematisches Forschungsinstitut Oberwolfach (Germany), 6–12 May 2007 (Oberwolfach Workshop). Co-organized with Petra Mutzel, Peter Sanders, Martin Skutella.
14. 2nd Workshop on “Algorithm and Data Structures”, May 29 - June 4, 2005, Bertinoro, Italy. Co-organized with Andrew Goldberg.
15. Workshop on “Algorithm and Data Structures”, June 23–28, 2003, Bertinoro, Italy. Co-organized with Camil Demetrescu.
16. “Summer School on Algorithm Engineering”, Rome, Italy, September 10–12, 2001 Co-organized with Giovanni Rinaldi.
17. “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 Full 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 CEO and Co-Founder at Miowelfare.  |
| 2011 | Antonio Grillo, “Trasferring Identities to Mobile Devices (TIMiD)”. Now Digital Area Managing Director at Mashfrog Group.   |

- 2011 Alessandro Lentini, "TUBA: Total User Behavioural Authentication". Now CEO and Co-Founder at TrustMyPhone.
- 2011 Vittorio Ottaviani "Open BAR - A New Approach to Mobile Backup And Restore". Now Head Of B2C Digital Solutions and CTO at International Game Technology.
- 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 Securizing Documents Through Their Entire Life Cycle". Now Senior Manager at SelfieWealth.
- 2014 Fabio Marturana, "Device Classification in Digital Forensic Triage". Now Lieutenant Colonel in the Italian Carabinieri police.
- 2015 Federico Santaroni, "Reliability in public transport networks". Now Co-Founder and CIO at Comehome.
- 2017 Giovanni Bottazzi, "Botnets: Threats and Countermeasures". Now Lieutenant Colonel in the Italian Carabinieri police.
- 2017 Nilakantha Paudel, "Graph Algorithms for Analytics and Security". Now postdoc at Gran Sasso Science Institute (GSSI), L'Aquila.
- 2019 Nikos Parotsidis, "Connectivity in Directed Graphs: Static and Dynamic". Now Research Software Engineer at Google Zurich.
- 2019 Leandro Ishi Soares De Lima (coadvised with Marie-Frances Sagot, Université Claude Bernard Lyon 1), "De novo algorithms to identify patterns associated with biological events in de Bruijn graphs built from NGS data". Now Scientific Software Developer at the European Bioinformatics Institute.
- 2020 Aikaterini Karanasiou, "Robustness in Directed Graphs". Now Postdoctoral Researcher at Huawei European Research Institute, Zurich, Switzerland.
- 2023 Luca Pepé Sciarria, "Augmenting Trees with Non-Tree Edges for Bubble Generators and Diameter Augmenting Problems". Now postdoc at University of Rome "Tor Vergata".

### Current

- 2021– Davide Torre, expected 2024.
- 2022– Riccardo Sabbadini, expected 2025.
- 2023– Giorgio Piccardo, expected 2026.

### Member of Ph.D. Theses Committees

- 2022 "Temporal Graph Algorithms", Lutz Oettershagen, Rheinische Friedrich-Wilhelms-Universität Bonn, Germany.
- 2021 "Scalable Algorithms for the Analysis of Massive Networks", Eugenio Angriman, Humboldt-Universität zu Berlin, Germany.
- 2020 "Novel Lower Bounds and Upper Bounds in Dynamic Coloring and Dynamic Matching", Manas Jyoti Kashyop, Indian Institute of Technology Madras, India.
- 2018 "Digraph Reachability Algorithms", Daniel Wolled-Graf, ETH Zurich, Switzerland.
- 2017 "New Results on Hashing, Labeling Schemes and Algorithms", Mathias Baek Tejs Knudsen, University of Copenhagen Denmark.
- 2017 "Compact and Efficient Fault Tolerant Structures for Directed Graphs", Keerti Choudhary, Indian Institute of Technology Kanpur, India.
- 2015 "Algorithms for computing the 2-vertex-connected components and the 2-blocks of directed graphs", Raed Jaber, Technische Universität Ilmenau, 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.

## **TEACHING**

### **Undergraduate (Bachelor) Courses**

- “Artificial Intelligence and Machine Learning”, Bachelor in Management and Computer Science, Luiss – Libera Università Internazionale degli Studi Sociali Guido Carli, 2020-21, 2021-22, 2022-23, 2023-24, 2024-25.
- “Algorithms”, Bachelor in Management and Computer Science, Luiss – Libera Università Internazionale degli Studi Sociali Guido Carli, 2018-19, 2019-20.
- “Algorithm Engineering” (“Ingegneria degli Algoritmi”), Laurea in Ingegneria Informatica, Università di Roma “Tor Vergata”, 2008-09, 2009-10, 2010-11, 2011-12, 2012-13, 2013-14, 2014-15, 2015-16, 2016-17, 2017-18.
- “Introduction to Computer Science” (“Informatica”), Laurea in Economia e Management, Luiss – Libera Università Internazionale degli Studi Sociali Guido Carli, 2012-13, 2013-14, 2014-15, 2015-16, 2016-17, 2017-18.
- “Algorithms, Data and Security”, B.A. in Global Governance, Università di Roma “Tor Vergata”, 2017-18.

- “Algorithms and Data Structures” (“Algoritmi e Strutture Dati”), Laurea in Ingegneria Informatica, Università di Roma “Tor Vergata”, 2002-03, 2003-04, 2004-05, 2005-06, 2006-07, 2007-08.
- “Introduction to Computer Programming” (“Fondamenti di Informatica I”), Laurea in Ingegneria Informatica, Università di Roma “Tor Vergata”, 1998-99, 1999-2000, 2000-01, 2001-02.
- “COMS W4231 Analysis of Algorithms I”, Department of Computer Science, Columbia University, 2000-01.
- “Introduction to Computer Science” (“Informatica 2”), Laurea in Ingegneria Civile, Università di Roma “Tor Vergata”, 2000-01.
- “Introduction to Databases” (“Basi di Dati”), Laurea in Ingegneria Informatica, Università di Roma “Tor Vergata”, 1999-00.
- “Algorithms and Data Structures” (“Algoritmi e Strutture Dati”), Laurea in Informatica, Università “Ca’ Foscari” di Venezia, 1997-98.
- “Algorithms and Data Structures Lab” (“Laboratorio di Algoritmi e Strutture Dati”), Laurea in Informatica, Università “Ca’ Foscari” di Venezia, 1997-98.
- “Computer Architecture” (“Architettura degli Elaboratori I”), Laurea in Informatica, Università “Ca’ Foscari” di Venezia, 1995-96, 1996-97.
- “Computer Architecture Lab” (“Laboratorio di Architettura degli Elaboratori I”), Laurea in Informatica, Università “Ca’ Foscari” di Venezia, 1995-96, 1996-97.
- “Computer Architecture” (“Architettura degli Elaboratori I”), Laurea in Informatica, Università degli Studi di Salerno, 1994-95, 1995-96.
- “Introduction to Computer Programming” (“Fondamenti di Informatica II”), Diploma in Ingegneria Informatica ed Automatica, Università degli Studi di Roma “La Sapienza”, 1993-94, 1994-95.
- “W1003-02 Introduction to Computer Programming”, Department of Computer Science, Columbia University, New York, U.S.A., 1988-89.
- “S3131 Data Structures”, Department of Computer Science, Columbia University, New York, U.S.A., 1987-88.

### Graduate (Master) Courses

- “Machine Learning”, Laurea magistrale in Data Science and Management, Libera Università Internazionale degli Studi Sociali Guido Carli, 2021-22, 2022-23, 2023-24, 2024-25.
- “Data Science in Action”, Laurea magistrale in Data Science and Management, Libera Università Internazionale degli Studi Sociali Guido Carli, 2021-22.
- “Machine Learning”, Master in Big Data and Management, Luiss Business School – Libera Università Internazionale degli Studi Sociali Guido Carli, 2018-19, 2019-20, 2020-21, 2021-22, 2022-23.
- “Customer Intelligence and Big Data”, Master in Marketing, Luiss – Libera Università Internazionale degli Studi Sociali Guido Carli, 2018-19, 2019-20, 2020-21, 2021-22.
- “Applications of Hashing and Cryptography”, Master and Executive Program in Cyberscience, Luiss – Libera Università Internazionale degli Studi Sociali Guido Carli, 2018-19, 2019-20, 2020-21, 2021-22, 2022-23.
- “Business Analytics”, Executive Master in Business Administration, Luiss Business School – Libera Università Internazionale degli Studi Sociali Guido Carli, 2018-19, 2020-21, 2021-22, 2022-23.
- “Data Management for Tourists”, Master in Tourism Management, Luiss Business School – Libera Università Internazionale degli Studi Sociali Guido Carli, 2018-19.
- “Introduction to Cybersecurity - Cryptography and Blockchain”, Master in Cybersecurity, Luiss School of Government, 2017-18, 2018-19, 2019-20.
- “Web Algorithms” (“Algoritmi per il Web”), Laurea Magistrale in Ingegneria Informatica, Università di Roma “Tor Vergata”, 2013-14, 2014-15, 2015-16, 2016-17, 2017-18.

- “Customer Intelligence e Logiche di Analisi dei Big Data”, Laurea Magistrale in Marketing, Luiss – Libera Università Internazionale degli Studi Sociali Guido Carli, 2017-18.
- “Computer and Internet Security” (“Sicurezza informatica e Internet”), Laurea Magistrale in Ingegneria Informatica, Università di Roma “Tor Vergata”, 2011-12, 2012-13, 2013-14, 2014-15, 2015-16.
- “Computer and Network Security” (“Sicurezza nei sistemi informatici”), Laurea Specialistica/Magistrale in Ingegneria Informatica, Università di Roma “Tor Vergata”, 2000-01, 2001-02, 2002-03, 2003-04, 2004-05, 2005-06, 2007-08, 2008-09, 2009-10, 2010-11.
- “Distributed Databases” (“Basi di Dati Distribuite”), Laurea Specialistica in Ingegneria Informatica, Università di Roma “Tor Vergata”, 2000-01, 2001-02, 2002-03.

#### **Postgraduate (PhD) Courses**

- “Dynamic Graph Algorithms”, Gran Sasso Science Institute, L’Aquila, Italy (10 hours), 2015-16.
- “Dynamic Graph Algorithms”, Institute of Informatics, University of Warsaw, Poland (10 hours), 2015-16.
- “COMP670: Advanced Graph Algorithms”, Department of Computer Science, Hong Kong University of Science & Technology, Hong Kong (30 hours), 1997-98.
- “Network Security” Max-Planck-Institut für Informatik. Saarbrücken, Germany (10 hours), 1996-97.
- “Network Security” (“Sicurezza su reti”), Dottorato di Ricerca in Informatica, Università degli Studi di Bologna, Padova e Venezia (20 hours), 1996-97.
- “Algorithm Engineering (“Ingegneria degli Algoritmi”), Scuola Nazionale dei Dottorati di Ricerca in Ingegneria Informatica ed Informatica (10 hours), 1996-97.
- “Randomized algorithms” (“Algoritmi randomizzati”), Dottorato di Ricerca in Informatica, Università degli Studi di Bologna, Padova e Venezia (20 hours), 1995-96.
- “Randomized algorithms” (“Algoritmi randomizzati”), Dottorati di Ricerca in Ingegneria Informatica ed Informatica, Università degli Studi di Roma “La Sapienza” (20 hours), 1995-96.
- “Dynamic Graph Algorithms”, Department of Computer Science, Aarhus Universitet, Denmark (10 hours), 1994-95.
- “Dynamic Graph Algorithms”, Department of Computer Science, University of Copenhagen, Denmark (10 hours), 1994-95.
- “Combinatorial algorithms” (“Algoritmi per problemi combinatori”), Dottorati di Ricerca in Ingegneria Informatica ed Informatica, Università degli Studi di Roma “La Sapienza” (20 hours), 1993-94.
- “Graph algorithms” (“Algoritmi per grafi”), Dottorato di Ricerca in Matematica Computazionale, Università degli Studi di Padova (20 hours), 1992-93.
- “Combinatorial algorithms” (“Algoritmi per problemi combinatori”), Dottorato di Ricerca in Informatica, Università degli Studi di Pisa (20 hours), 1992-93.

#### **PANEL EXPERT/ EVALUATOR FOR FUNDING AGENCIES**

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

*US National Science Foundation* (NSF)

*Danish Council for Independent Research* (DFR)

*Danish Research Councils*

*Fund for Scientific Research* (FNRS), Belgium

*Israel Science Foundation* (ISF)

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

*Research Grants Council of Hong Kong* (RGC)

#### **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, Université Paris-Dauphine, Université Paris Diderot, University of Pisa, University of Rochester, University of Rome "La Sapienza", University of Salerno, University of Sao Paulo, University of Trento, Yale University, Warsaw University.

## PUBLICATIONS LIST

### Books and Conference Proceedings

- [1] M. Naldi, G. F. Italiano, K. Rannenberg, M. Medina, A. Bourka (Eds.): *Privacy Technologies and Policy - 7th Annual Privacy Forum*, APF 2019, Rome, Italy, June 13-14, 2019, Proceedings. *Lecture Notes in Computer Science 11498*, Springer 2019, ISBN 978-3-030-21751-8.
- [2] 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.
- [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 I. *Lecture Notes in Computer Science 9234*, Springer 2015, ISBN 978-3-662-48056-4.
- [4] 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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- [138] S. Min, J. Jang, K. Park, D. Giammarresi, G. F. Italiano, W. -S. Han, “Time-Constrained Continuous Subgraph Matching Using Temporal Information for Filtering and Backtracking,” *Proc. 40th IEEE International Conference on Data Engineering (ICDE 2024)*, Utrecht, Netherlands, 2024, 3257–3269.
- [139] A. Bhattacharya, G. F. Italiano, P. Sarathi Mandal, “Black Hole Search in Dynamic Tor”, *Proc. 3rd Symposium on Algorithmic Foundations of Dynamic Networks (SAND 2024)*, June 5-7, 2024, Patras, Greece, 6:1–6:16.
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- [146] G. Gu, Y. Nam, K. Park, Z. Galil, G. F. Italiano, W.-S. Han, “Efficient Graph Isomorphism Query Processing using Degree Sequences and Color-Label Distributions”, *Proc. 38th IEEE International Conference on Data Engineering (ICDE 2022)*, Kuala Lumpur, Malaysia, 9–12 May 2022.
- [147] G. F. Italiano, N. Prezza, B. Sinimeri, R. Venturini, “Compressed Weighted de Bruijn Graphs”, *Proc. 32nd Annual Symposium on Combinatorial Pattern Matching (CPM 2021)*, Wroclaw, Poland, July 5–7, 2021, 16:1–16:16.
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- [153] V. Acuña, G. F. Italiano, L. Lima, M.-F. Sagot, L. Pepè Sciarria, B. Sinimeri, “A family of tree-based generators for bubbles in directed graphs”, *Proc. 31st International Workshop on Combinatorial Algorithms (IWOCA 2020)*, 8–10 June 2020, Bordeaux, France, 17–29.
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<sup>6</sup>Selected as one of the best papers for the conference special issue in the journal *Information and Computation*.

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- [193] 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.
- [194] 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.
- [195] 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>8</sup>
- [196] 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.
- [197] 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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- [200] 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.
- [201] 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.
- [202] 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.
- [203] 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.
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- [207] 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.
- [208] 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.
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- [213] 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>11</sup>
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- [215] 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>12</sup>.
- [216] 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>13</sup>.
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- [218] 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.
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