

ANGELO FANELLI

<http://www.angelofanelli.it>

Personal Data

First Name Angelo
Last Name Fanelli
Nationality Italy

Education

2005–2009 **Ph.D. in Computer Science**, Dept. of Computer Science, University of L'Aquila, L'Aquila, Italy.

- THESIS: *On Approximate Solutions and Social Influence in Exact Potential Games*.
- ADVISOR: Prof. Michele Flammini.

1999–2005 **M.s. (Laurea) in Computer Science**, Dept. of Computer Science, University of L'Aquila, L'Aquila, Italy.

- THESIS: *Analisi e Ottimizzazione di Algoritmi di Routing su Reti Stradali, (Analysis and Engineering of Vehicle Routing Algorithms)*.
- ADVISOR: Prof. Michele Flammini (Dept. of Computer Science, University of L'Aquila, L'Aquila, Italy).
- GRADE: 110/110 *cum laude* (with honor).

Appointments

- Oct.'12 - present **Tenured Researcher** - CNRS (Centre National de la Recherche Scientifique), Laboratoire CREM (UMR 6211), Université de Caen Basse Normandie, France.
- Oct.'09 - Oct.'12 **Research Fellow** - Division of Mathematical Sciences, School of Physical and Mathematical Sciences, Nanyang Technological University, Singapore.
- Apr.'09 - Sep.'09 **Research Fellow** - Lehrstuhl für Informatik I (Algorithms and Complexity), RWTH Aachen University, Aachen, Germany.
- Jan.'09 - Mar.'09 **Research Assistant** - Lehrstuhl für Informatik I (Algorithms and Complexity), RWTH Aachen University, Aachen, Germany.

Teaching Experiences

- Fall 2011 *Teaching Assistant and Tutor* for **Computational Economics**, Division of Mathematical Sciences, School of Physical and Mathematical Sciences, Nanyang Technological University, Singapore.
- Spring 2011/'12 *Teaching Assistant and Tutor* for **Mathematical Foundations of Game Theory**, Division of Mathematical Sciences, School of Physical and Mathematical Sciences, Nanyang Technological University, Singapore.
- Spring 2010 *Teaching Assistant and Tutor* for **Calculus II**, Division of Mathematical Sciences, School of Physical and Mathematical Sciences, Nanyang Technological University, Singapore.
- Spring 2006/'07/'08 *Teaching Assistant* for **Algorithms and Data Structure II**, Dept. of Computer Science, University of L'Aquila, L'Aquila, Italy.
- Fall 2005/'06/'07/'08 *Teaching Assistant* for **Computer Architecture I**, Dept. of Computer Science, University of L'Aquila, L'Aquila, Italy.

Research Interests

Algorithmic Game Theory, Algorithms and Complexity, Combinatorial Optimisation, Computational Social Choice, Algorithm Engineering, Machine Learning.

Honors

2005–2009 Italian Government Merit Fellowship during Ph.D. studies.

Spring, Fall 2004–2005 Fellowship awarded for merit by Research and Development Center of NEXT S.p.a. (Rome) (<https://www.next.it>) for the M.s. Thesis work.

1999–2005 Fellowship awarded for merit by D.S.U. (Regional Association for Study Rights) during M.s. studies.

Publications

Journal Papers

- J-1 I. Caragiannis, A. Fanelli, N. Gravin, A. Skopalik. Approximate pure Nash equilibria in weighted congestion games: Existence, efficient Computation, and structure. *Transactions on Economics and Computation*, accepted for publication.
- J-2 J. Augustine, I. Caragiannis, A. Fanelli, C. Kalaitzis. Enforcing efficient equilibria in network design games via subsidies. *Algorithmica*, accepted for publication.
- J-3 J. Augustine, N. Chen, E. Elkind, A. Fanelli, N. Gravin, and D. Shiryayev. Dynamics of profit-sharing games. *Internet Mathematics*, accepted for publication.
- J-4 A. Fanelli, M. Flammini, and L. Moscardelli. Stackelberg strategies for network design games. *Internet Mathematics*, 9(4): 336-359, 2013.
- J-5 V. Bilò, I. Caragiannis, A. Fanelli, and G. Monaco. Improved lower bounds on the price of stability of undirected network design games. *Theory of Computing Systems*, 52(4): 668-686, 2013.
- J-6 I. Caragiannis, A. Fanelli, N. Gravin, A. Skopalik. Computing approximate pure Nash equilibria in congestion games. *SIGecom Exchanges*, 11(1): 26-29, 2012.
- J-7 A. Fanelli, M. Flammini, and L. Moscardelli. The speed of convergence in congestion games under best-response dynamics. *ACM Transactions on Algorithms*, 8(3): 25, 2012.
- J-8 A. Fanelli, M. Flammini, D. Mango, G. Melideo, and L. Moscardelli. Experimental evaluations of algorithms for ip table minimization. *Journal of Interconnection Networks*, 12(4): 299-318, 2011.
- J-9 A. Fanelli and L. Moscardelli. On best response dynamics in weighted congestion games with polynomial delays. *Distributed Computing*, 24(5):245-254, 2011.
- J-10 V. Bilò, A. Fanelli, M. Flammini, and L. Moscardelli. Graphical congestion games. *Algorithmica*, 61(2):274-297, 2011.
- J-11 V. Bilò, A. Fanelli, M. Flammini, and L. Moscardelli. Performances of one-round walks in linear congestion games. *Theory of Computing Systems*, 49(1):24-45, 2011.
- J-12 A. Fanelli, M. Flammini, and L. Moscardelli. On the convergence of multicast games in directed networks. *Algorithmica*, 57(2):301–324, 2010.
- J-13 V. Bilò, A. Fanelli, M. Flammini, and L. Moscardelli. When ignorance helps: Graphical multicast cost sharing games. *Theoretical Computer Science*, 411(3):660–671, 2010.
- J-14 V. Bilò, A. Fanelli, M. Flammini, G. Melideo, and L. Moscardelli. Designing fast converging cost sharing methods for multicast transmissions. *Theory of Computing Systems*, 47(2):507–530, 2010.

Conference Papers

- C-1 D. Bilò, A. Fanelli, L. Moscardelli. On lookahead equilibria in congestion games. *8th International Workshop on Internet and Network Economics, WINE 2013*.
- C-2 A. Fanelli, D. Leniowski, G. Monaco, P. Sankowski. The ring design game with fair cost allocation. *8th International Workshop on Internet and Network Economics, WINE 2012*.
- C-3 A. Fanelli, and L. Moscardelli, A. Skopalik. On the impact of fair best response dynamics. *37rd International Symposium on Mathematical Foundations of Computer Science, MFCS 2012*.
- C-4 J. Augustine, I. Caragiannis, A. Fanelli, C. Kalaitzis. Enforcing efficient equilibria in network design games via subsidies. *24th ACM Symposium on Parallelism in Algorithms and Architectures, SPAA 2012*.
- C-5 I. Caragiannis, A. Fanelli, N. Gravin, A. Skopalik. Approximate pure Nash equilibria in weighted congestion games: Existence, efficient Computation, and structure. *13th ACM Conference on Electronic Commerce, EC 2012*.
- C-6 I. Caragiannis, A. Fanelli, N. Gravin, A. Skopalik. Efficient computation of approximate pure Nash equilibria in congestion games. *52nd Annual IEEE Symposium on Foundations of Computer Science, FOCS 2011*.
- C-7 J. Augustine, N. Chen, E. Elkind, A. Fanelli, N. Gravin, and D. Shiryayev. Dynamics of profit-sharing games. *The 22nd International Joint Conference on Artificial Intelligence, IJCAI 2011*.
- C-8 V. Bilò, I. Caragiannis, A. Fanelli, and G. Monaco. Improved lower bounds on the price of stability of undirected network design games. *3rd International Symposium on Algorithmic Game Theory, SAGT 2010*.
- C-9 V. Bilò and A. Fanelli. Computing exact and approximate nash equilibria in 2-player games. *6th International Conference on Algorithmic Aspects in Information and Management, AAIM 2010*.
- C-10 A. Fanelli, M. Flammini, and L. Moscardelli. Stackelberg strategies for network design games. *6th International Workshop on Internet and Network Economics, WINE 2010*.
- C-11 V. Bilò, A. Fanelli, M. Flammini, and L. Moscardelli. Performances of one-round walks in linear congestion games. *2nd International Symposium on Algorithmic Game Theory, SAGT 2009*.
- C-12 A. Fanelli and L. Moscardelli. On best response dynamics in weighted congestion games with polynomial delays. *5th International Workshop on Internet and Network Economics, WINE 2009*.
- C-13 V. Bilò, A. Fanelli, M. Flammini, and L. Moscardelli. Graphical congestion games. *4th International Workshop on Internet and Network Economics, WINE 2008*.
- C-14 V. Bilò, A. Fanelli, M. Flammini, and L. Moscardelli. Graphical congestion games with linear latencies. *20th Annual ACM Symposium on Parallel Algorithms and Architectures, SPAA 2008*.
- C-15 V. Bilò, A. Fanelli, M. Flammini, and L. Moscardelli. When ignorance helps: Graphical multicast cost sharing games. *33rd International Symposium on Mathematical Foundations of Computer Science, MFCS 2008*.
- C-16 A. Fanelli, M. Flammini, and L. Moscardelli. The speed of convergence in congestion games under best-response dynamics. *35th International Colloquium on Automata, Languages and Programming, ICALP 2008*.
- C-17 A. Fanelli, M. Flammini, D. Mango, G. Melideo, and L. Moscardelli. Experimental evaluations of algorithms for ip table minimization. *6th International Workshop on Experimental Algorithms, WEA 2007*.
- C-18 A. Fanelli, M. Flammini, and L. Moscardelli. On the convergence of multicast games in directed networks. *19th Annual ACM Symposium on Parallel Algorithms and Architectures, SPAA 2007*.

- C-19 A. Fanelli, M. Flammini, G. Melideo, and L. Moscardelli. Multicast transmissions in non-cooperative networks with a limited number of selfish moves. *31st International Symposium on Mathematical Foundations of Computer Science, MFCS 2006*.
- C-20 A. Fanelli, M. Flammini, G. Melideo, and L. Moscardelli. Game theoretical issues in optical networks. In *8th International Conference on Transparent Optical Networks, ICTON 2006*.

Book Chapters

- B-1 V. Bilò, I. Caragiannis, A. Fanelli, M. Flammini, C. Kaklamanis, G. Monaco, and L. Moscardelli. Game-theoretic approaches to optimization problems in communication networks. In A. Koster and X. Muñoz, editors, *Graphs and Algorithms in Communication Networks*, Texts in Theoretical Computer Science. An EATCS Series, pages 241–263. Springer Berlin Heidelberg, 2010.

Manuscripts

- M-1 I. Caragiannis, A. Fanelli, N. Gravin. Short sequences of improvement moves lead to approximate equilibria in constraint satisfaction games.
- M-2 D. Bilò, A. Fanelli, M. Flammini, G. Monaco, L. Moscardelli. The price of envy-freeness in machine scheduling.
- M-3 D. Bilò, A. Fanelli, M. Flammini, G. Monaco, L. Moscardelli. On fractional hedonic games.
- M-4 A. Fanelli, L. Moscardelli. Fairness in ranking aggregation problem.

Professional Services

- Program Committee Member for the following conferences:
 - *International Conference on Operations Research (OR)*, 2014. (Session Chair)
 - *13th ACM Conference on Electronic Commerce (EC)*, 2012.
 - *7th Workshop on Internet & Network Economics (WINE)*, 2011.
 - *22nd International Joint Conferences on Artificial Intelligence (IJCAI)*, 2011.
- Reviewed articles for several peer-reviewed *journals* (Games and Economic Behavior, Theoretical Computer Science, Theory of Computing Systems, Journal of Autonomous Agents and Multi-Agent Systems, Information Processing Letters, Computer Networks, IEEE Journal on Selected Areas in Communications, ...) and *conferences* (SODA, ICALP, ESA, EC, STACS, IPDPS, WINE, SAGT, SIROCCO, ...).
- Gave several academic seminars and conference talks.

References

- Michele Flammini** Prof., Dept. of Computer Science, University of L'Aquila, Via Vetoio Loc. Coppito, I-67100 L'Aquila, Italy. Phone: +39 0862 433730, Fax: +39 0862 433131.
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Relationship: Ph.D. Advisor.
- Edith Elkind** Assist. Prof., Division of Mathematical Sciences, School of Physical and Mathematical Sciences, Nanyang Technological University, 21 Nanyang Link, 637371 Singapore. Phone: +65 6513 2028.
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Relationship: past employer.

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Relationship: past employer and Ph.D. Thesis reviewer.