

# Curriculum Vitae of **Gianpiero Monaco**

## **1 Personal Information**

Citizenship: *Italian.*

Office Address: *Department of Information Engineering Computer Science and Mathematics, University of L'Aquila.*

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## **2 Current position**

Since April 2012: Assistant Professor at the Department of Information Engineering Computer Science and Mathematics, University of L'Aquila, Italy.

## **3 Studies**

December 2002: Bachelor Degree in Computer Science achieved at the faculty of Mathematical Physical and Natural Science of the University of L'Aquila, mark 110\110.

July 2006: Master Degree cum Laude in Computer Science achieved at the faculty of Mathematical Physical and Natural Science of the University of L'Aquila.

1st November 2006 - 31st October 2009: Ph.D. Student in Computer Science at the Department of Computer Science of the University of L'Aquila (supervisor Prof. Michele Flammini).

April 2010: European Ph.D. in Computer Science at the Department of Computer Science of the University of L'Aquila.

## **4 Research interests and activities**

His current research interests include design and analysis of algorithms, approximation algorithms, algorithmic game theory, optimization problems in communication networks (Optical, Wireless and Mobile networks).

## 5 Experience

14 November - 14 December 2007 and 12 May - 12 August 2008: Visitor at the Department of Computer Engineering & Informatics of the University of Patras (Greece) hosted by Prof. Christos Kaklamanis, for an overall period of four months.

1 November 2009 - 31 October 2010: PostDoc at INRIA Sophia Antipolis, Project Team MAS-COTTE.

November 2010 - February 2011: Research fellow at Department of Science, University of Chieti-Pescara.

May 2011: Visitor at the Department of Computer Science of Technion - Haifa, hosted by Prof. Shmuel Zaks.

November 2011 - January 2012: Visitor at the Division of Mathematical Sciences, Nanyang Technological University, Singapore, hosted by Prof. Edith Elkind.

March 2011 - February 2012: Research fellow (PostDoc) at, Department of Computer Science, University of L'Aquila.

March 2012 - October 2012: Visitor at the Institute of Informatics, University of Warsaw, hosted by Prof. Piotr Sankowski.

## 6 Teaching assistance

2007/2008 Teaching assistant at University of L'Aquila, Italy. Title of the course: "Technologies of Program languages".

2006-2009 He prepared the exercises and the exams, and participated actively to the evaluations of written and oral examinations for the "Computer Architecture, Algorithms and Data Structures" course. Moreover he has been "supporting supervisor" of several Thesis supervised by Prof. Michele Flammini.

## 7 Other Activities

Local organization, GII Doctoral School - Boosting Services and Information in Adaptive Networked Enterprise, 3-12 September 2008, L'Aquila, Italy.

## 8 Attended doctoral school

- *Search engine optimization*, 18 May 2007, Rome, Italy.
- *BioInformatic doctoral School*, 22,23,24,29,30 May 2007, L'aquila, Italy.
- *Hot-Tina School on Hot Topics in Network Algorithms*, 4-8 May 2008, Bertinoro (Forl-Cesena), Italy.
- *DYNAMO Training School on Algorithmic Aspects of Dynamic Networks*, 4-6 Luglio 2008, Reykjavik, Iceland.
- *GII Doctoral School - Boosting Services and Information in Adaptive Networked Enterprise*, 3-12 September 2008, L'Aquila, Italy.
- *Games Spring School* 31 May - 6 June, Bertinoro (Forl-Cesena), Italy.

## 9 Presentation

- A 6/5-approximation algorithm for the maximum 3-cover problem. *33rd International Symposium on Mathematical Foundations of Computer Science (MFCS 2008)*, August 25-29, 2008, Torun, Poland.
- On the Complexity of the Regenerator Placement Problem in Optical Networks. *21st ACM Symposium on Parallelism in Algorithms and Architectures (SPAA 2009)*, August 11-13, 2009, Calgary, Canada.
- Optimizing Regenerator Cost in Traffic Grooming. *14th International Conference On Principles Of Distributed Systems (OPODIS 2010)*, December 13-17, 2010, Tozeur, Tunisia.

## 10 Reviewer for Publications

### 10.1 International Journals

Journal of Discrete Algorithms, Theory of Computing Systems, IEEE/ACM Transactions on Networking, Algorithmica, ACM Transactions on Economics and Computation.

### 10.2 International Conferences

ADHOC-NOW 2007, SIROCCO 2007, DCOSS 2008, ICDCS 2008, ICSE 2008, WG 2008, ESA 2009, ICALP 2009, IPDPS 2009, SAGT 2009, WINE 2009, APPROX 2010, FUN 2010, ICALP

2010, SEA 2010, STACS 2011, WG 2011, FCT 2011, WINE 2011, ICALP 2012, ICC 2012, MFCS 2012, SAGT 2012, SODA 2013.

## 11 Languages

- Italian: *native speaker*
- English: *Good level proficiency in oral and written communication skills.*
- Frech: *Intermediate level proficiency in oral communication skills. Basic level proficiency in written communication skills.*

## 12 Publications

### 12.1 International Journals

- J1 M.Flammini, G.Monaco, L.Moscardelli, M.Shalom and S.Zaks: On the Complexity of the Regenerator Cost Problem in General Networks with Traffic Grooming. *Algorithmica*. To appear.
- J2 I. Caragiannis and G. Monaco: A 6/5-approximation algorithm for the maximum 3-cover problem. *Journal of Combinatorial Optimization*. To appear.
- J3 V. Biló, I. Caragiannis, A. Fanelli, and G. Monaco: Improved lower bounds on the price of stability of undirected network design games. *Theory of Computing System*. To appear.
- J4 M.Flammini, G.Monaco, L.Moscardelli, M.Shalom and S.Zaks: Optimizing Regenerator Cost in Traffic Grooming. *Theoretical Computer Science*. To appear.
- J5 M. Flammini, A. Marchetti Spaccamela, G. Monaco, L. Moscardelli, S. Zaks: On the Complexity of the Regenerator Placement Problem in Optical Networks. *IEEE/ACM Transactions on Networking*, 19(2):498-511, 2011.
- J6 V. Biló, M. Flammini, G. Monaco, L. Moscardelli: On the performances of Nash Equilibria in Isolation Games. *Journal of Combinatorial Optimization*, 22(3):378-391, 2011.
- J7 M. Flammini, G. Monaco, L. Moscardelli, H. Shachnai, M. Shalom, T. Tamir, S. Zaks: Minimizing total busy time in parallel scheduling with application to optical networks. *Theoretical Computer Science*, 411(40-42), pp. 3553-3562, 2010.

- J8 M. Flammini, G. Monaco, L. Moscardelli, M. Shalom, S. Zaks: Approximating the Traffic Grooming Problem in Tree and Star Networks. *Journal of Parallel and Distributed Computing*, 68(7), pp. 939-948, 2008.
- J9 M. Flammini, G. Monaco, L. Moscardelli, M. Shalom, S. Zaks: Selfishness, Collusion and Power of Local Search for the ADMs Minimization Problem. *Computer Networks*, 52(9), pp. 1721-1731, 2008.

## 12.2 Book Chapters

- B1 V. Biló, I. Caragiannis, A. Fanelli, M. Flammini, C. Kaklamanis, G. Monaco, L. Moscardelli: Game-Theoretic Approaches to Optimization Problems in Communication Networks. *Chapter in Graphs and Algorithms in Communication Networks*, Springer-Verlag, 2009.
- B2 T. Cinkler, D. Coudert, M. Flammini, G. Monaco, L. Moscardelli, X. Muoz, I. Sau Valls, M. Shalom, S. Zaks: Traffic Grooming: Combinatorial Results and Practical Resolutions. *Chapter in Graphs and Algorithms in Communication Networks*, Springer-Verlag, 2009.

## 12.3 International Conferences

- I1 A. Fanelli, D. Leniowski, G. Monaco and P. Sankowski: The ring design game with fair cost allocation. *Proceedings of the 8th International Workshop On Internet And Network Economics (WINE 2012)*.
- I2 V. Bil, M.Flammini, G.Monaco and L.Moscardelli: Some Anomalies of Farsighted Strategic Behavior. *Proceedings of the 10th Workshop on Approximation and Online Algorithms (WAOA 2012)*.
- I3 M. Flammini, V. Gallotti, G. Melideo, G. Monaco and L. Moscardelli: Mobile Network Creation Games. *Proceedings of the 19th International Colloquium on Structural Information and Communication Complexity (SIROCCO 2012)*.
- I4 M.Flammini, G.Monaco, L.Moscardelli, M.Shalom and S.Zaks: On the Complexity of the Regenerator Cost Problem in General Networks with Traffic Grooming. *Proceedings of the 15th International Conference On Principles Of Distributed Systems (OPODIS 2011)*
- I5 M.Flammini, G.Monaco, L.Moscardelli, M.Shalom and S.Zaks: Optimizing Regenerator Cost in Traffic Grooming. *Proceedings of the 14th International Conference On Principles Of Distributed Systems (OPODIS 2010)*.
- I6 V. Biló, I. Caragiannis, A. Fanelli, G. Monaco: Improved lower bounds on the price of stability of undirected network design games. *Proceedings of the 3rd International Symposium on Algorithmic Game Theory (SAGT 2010)*.

- I7 M. Flammini, A. Marchetti Spaccamela, G. Monaco, L. Moscardelli, S. Zaks: On the Complexity of the Regenerator Placement Problem in Optical Networks. *Proceedings of the 21st ACM Symposium on Parallelism in Algorithms and Architectures (SPAA 2009)*.
- I8 V. Biló, M. Flammini, G. Monaco, L. Moscardelli: On the performances of Nash Equilibria in Isolation Games. *Proceedings of the 15th International Computing and Combinatorics Conference (COCOON 2009)*.
- I9 M.Flammini, G.Monaco, L.Moscardelli, H. Shachnai, M.Shalom, T. Tamir and S.Zaks: Minimizing Total Busy Time in Parallel Scheduling with Application to Optical Networks. *Proceedings of the 23rd IEEE International Parallel and Distributed Processing Symposium (IPDPS 2009)*.
- I10 M.Flammini, G.Monaco, L.Moscardelli, M.Shalom and S.Zaks: Approximating the Traffic Grooming Problem with Respect to ADMs and OADMs. *Proceedings of the 14th International Conference on Parallel and Distributed Computing (EuroPar 2008)*.
- I11 I. Caragiannis and G. Monaco: A  $6/5$ -approximation algorithm for the maximum 3-cover problem. *Proceedings of the 33rd International Symposium on Mathematical Foundations of Computer Science (MFCS 2008)*.
- I12 S. Di Giannantonio, M.Flammini, G.Monaco, L.Moscardelli, M.Shalom and S.Zaks: Selfishness, Collusion and Power of Local Search for the ADMs Minimization Problem. *Proceedings of the 3rd International Workshop On Internet And Network Economics (WINE 2007)*.
- I13 M.Flammini, G.Monaco, L.Moscardelli, M.Shalom and S.Zaks: Approximating the Traffic Grooming Problem in Tree and Star Networks. *Proceedings of the 32st International Workshop on Graph-Theoretic Concepts in Computer Science (WG 2006)*.
- I14 M.Flammini, G.Monaco, L.Moscardelli, M.Shalom and S.Zaks: Minimizing the number of ADMs with and without traffic grooming: complexity and approximability. *Proceedings of the 8th International Conference on Transparent Optical Networks (ICTON 2006)*