CURRICULUM VITAE ET STUDIORUM

PAOLO PENNA

PERSONAL DATA:

Name	Paolo Penna
Birth Date	January 13, 1972
Nationality	Italian
WWW	http://www.dia.unisa.it/~penna/no-blood-for-oil.html
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EDUCATION:

1991-1996	Degree in Computer Science at the University of Rome "La Sapienza" (advised by Pilu Crescenzi)
1996-2000	PhD in Computer Science at the University of Rome "La Sapienza" (advised by Giorgio Gambosi)

WORKING EXPERIENCES AND VISITING POSITIONS:

Apr 1999 - Jan 2001	Visiting INRIA in Sophia Antipolis (hosted by Afonso Ferreira)
Mar 2001 - Apr 2001	Visiting ETH Zurich (hosted by Peter Widmayer)
May 2001 - Sept 2002	PostDoc at ETH Zurich (hosted by Peter Widmayer)
Feb 2002 - Mar 2002	Visiting Carleton University (hosted by Evangelos Kranakis)
Oct 2002 - Present	PostDoc at Università di Salerno (hosted by Giuseppe Persiano)

LANGUAGES:

Italian (mother tongue), English (written/spoken, good knowledge), French (spoken good, written basic), German (basic knowledge).

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Organizing and Scientific Committees:

2008	Program Committee of the *35th Int. Conf. on Current Trends in Theory and Practice of Computer Science (SOFSEM 2009)*
2008	Program Committee of the *6th Workshop on Approximation and Online Algorithms (WAOA 2008)*
2008	Program Committee of the *1st Int. Workshop on Computational P2P Networks: Theory and Practice (ComP2P 2008)*
2007	Co-Chairing the *Student Research Competition at Mobicom 2007*
2007	Program Committee of *Fun with Algorithms (FUN 2007)*
2007	Program Committee of the *7th International Conference on Peer-to-Peer Computing (P2P 2007)*
2007	Program Committee of the *6th Int. Conference on AdHoc Networks and Wireless (AD-HOC-NOW 2007)*
2006	Program Committee of the *6th International Conference on Peer-to-Peer Computing (P2P 2006)*
2006	Program Committee of the *5th Int. Conference on AdHoc Networks and Wireless (AD-HOC-NOW 2006)*
2005	Program Committee of the *5th International Conference on Peer-to-Peer Computing (P2P 2005)*
2005	Program Committee of the *6th ACM International Symposium on Mobile Ad Hoc Networking and Computing (MOBIHOC 2005)*
2003	Organizing and Scientific committee of the *1st Bertinoro Workshop on Algorithmic GAme ThEory (AGATE)*
2003	Program Committee of the *2nd Int. Conference on AdHoc Networks and Wireless (AD-HOC-NOW 2003)*
2000	Organizing Committee of the *5th Italian Conference on Algorithms and Complexity (CIAC 2000)*

Research Interests:

- Algorithms and Complexity,

- Algorithmic Game Theory, Micro Economics and the Internet,

- Wireless Networks,

- Online Algorithms,

- Parallel Computing,

- Knowledge Representation,

- Graph Drawing,

- Computational Biology.

PUBLICATIONS

CONFERENCES WITH REVIEW PROCESS

1. P. Penna, F. Schoppmann, R. Silvestri, and P. Widmayer. *Pseudonyms in cost-sharing games.* Proc. of the 5th International Workshop On Internet And Network Economics (**WINE-09**), LNCS, 2009 (to appear).

2. V. Auletta, P. Penna, and G. Persiano. *Private capacities in mechanism design.* Proc. of the 34th International Symposium on Mathematical Foundations of Computer Science (**MFCS-09**), LNCS 5734, pag. 112-123, 2009.

3. P. Penna and C. Ventre. *Optimal collusion-resistant mechanisms with verification.* Proc. of the 10th ACM Conference on Electronic Commerce (**EC-09**), pag. 147-156, 2009.

4. V. Auletta, L. Moscardelli, P. Penna, and G. Persiano. *Interference Games in Wireless Networks.* Proc. of the 4th International Workshop On Internet And Network Economics (**WINE-08**), LNCS 5385, pag. 278-285, 2008.

5. P. Penna and C. Ventre. *Collusion-Resistant Mechanisms with Verification Yielding Optimal Solutions.* Proc. of the 16th Annual European Symposium on Algorithms (**ESA-08**), LNCS 5193, pag. 708-719, 2008.

6. V. Auletta, P. Penna, G. Persiano, and C. Ventre. *Alternatives to Truthfulness are Hard to Recognize.* Proc. of the 1st International Symposium on Algorithmic Game Theory (**SAGT-08**), LNCS 4997, pag. 194-205, 2008.

7. A. Monti, P. Penna, and R. Silvestri. *An Equivalent Version of the Caccetta-Häggkvist Conjecture in an Online Load Balancing Problem.* Proc. of the 33rd International Workshop on Graph-Theoretic Concepts in Computer Science (**WG-07**), LNCS 4769, pag. 154-165, 2007.

8. P. Penna, G. Proietti, and P. Widmayer, *Strongly Polynomial-Time Truthful Mechanisms in One Shot.* Proc. of the 2nd International Workshop on Internet and Network Economics (**WINE-06**), LNCS 4286, pag 377-388, 2006.

9. V. Auletta, R. De Prisco, P. Penna, P. Persiano, and C. Ventre. *New Constructions of Mechanisms with Verification.* Proc. of the 16th International Colloquium on Automata, Languages and Programming (**ICALP-06**), LNCS 4051, pag. 507-608, 2006.

10. P. Penna and C. Ventre. *The Algorithmic Structure of Group Strategyproof Cost-Sharing Mechanisms* Proc. of the 23rd Annual Symposium on Theoretical Aspects of Computer Science (**STACS-06**), LNCS 3884, pag. 337-348, 2006

11. P. Crescenzi, M. Di Ianni, A. Lazzoni, P. Penna G. Rossi, and P. Vocca. *Equilibria for Broadcast Range Assignment Games in Ad-Hoc Networks*. Proc. of the 4th Int. Conference on AdHoc Networks and Wireless (**AD-HOC-NOW-05**), LNCS 3738, pag. 4-17, 2005.

12. V. Auletta, R. De Prisco, P. Penna, and G. Persiano. *On Designing Truthful Mechanisms for Online Scheduling*. In Proc. of the 12th Colloquium on Structural Information and Communication Complexity (**SIROCCO-05**), LNCS 3499, pag. 3-17, 2005. Full version available as Technical Report of the European Project CRESCCO at `www.ceid.upatras.gr/crescco`, 2004.

13. P. Penna and C. Ventre. *Free-riders in Steiner tree cost-sharing games*. In Proc. of the 12th Colloquium on Structural Information and Communication Complexity (**SIROCCO-05**), LNCS 3499, pag 231-245, 2005. Full version available as Technical Report of the European Project CRESCCO at `www.ceid.upatras.gr/crescco`, 2004.

14. P. Penna and C. Ventre. *Energy-efficient Broadcasting in Ad-Hoc Networks: Combining MSTs with Shortest-path Trees*. In Proc. of the ACM Workshop on Performance Evaluation of Wireless Ad-Hoc, Sensor, and Ubiquitous Networks (**PE-WASUN-04**), ACM Press, pag. 61-68, 2004. Full version available as Technical Report of the European Project CRESCCO at `www.ceid.upatras.gr/crescco`, 2003.

15. P. Penna and C. Ventre. *More Powerful and Simpler Cost-Sharing Methods*. In Proc. of the 2nd Workshop on Approximation and Online Algorithms (**WAOA-04**), LNCS 3351, pag. 97-110, 2005. Full version available as Technical Report of the European Project CRESCCO at `www.ceid.upatras.gr/crescco`, 2004.

16. V. Auletta, R. De Prisco, P. Penna, and P. Persiano. *The Power of Verification for One-Parameter Agents*. Proc. of the 14th International Colloquium on Automata, Languages and Programming (**ICALP-04**), LNCS 3142, pag. 171-182, 2004. Full version available as Technical Report of the European Project CRESCCO at `www.ceid.upatras.gr/crescco`, 2003.

17. G. Melideo, P. Penna, G. Proietti, R. Wattenhofer, and P. Widmayer. *Truthful mechanisms for generalized utilitarian problems*. In Proc. of the 3rd International Conference on Theoretical Computer Science (**IFIP-TCS-04**), Kluwer Academic Publisher, pag. 165-180, 2004. Full version available as Technical Report of the European Project CRESCCO at `www.ceid.upatras.gr/crescco`, 2003.

18. V. Auletta, R. De Prisco, P. Penna, and P. Persiano. *How to Route and Tax Selfish Unsplittable Traffic*. In Proc. of the 16th ACM Symposium on Parallelism in Algorithms and Architectures (**SPAA-04**), pag. 196-205, 2004. Full version available as Technical Report of the European Project CRESCCO at `www.ceid.upatras.gr/crescco`, 2003.

19. P. Penna and C. Ventre. *Sharing the cost of multicast transmissions in wireless networks*. In Proc. of the 11th Colloquium on Structural Information and Communication

Complexity (**SIROCCO-04**), LNCS 3104, pag. 255-266, 2004. Full version available as Technical Report of the European Project CRESCCO at `www.ceid.upatras.gr/crescco`, 2003.

20. V. Auletta, R. De Prisco, P. Penna, and P. Persiano. *Deterministic Truthful Approximation Mechanisms for Scheduling Related Machines.* Proc. of the 21st Annual Symposium on Theoretical Aspects of Computer Science (**STACS-04**), LNCS 2996, pag. 608-619, 2004

21. P. Crescenzi, G. Gambosi, G. Nicosia, P. Penna, and W. Unger. *On-line load balancing made simple: Greedy strikes back.* In Proc. of the 13th International Colloquium on Automata, Languages and Programming (**ICALP-03**), LNCS 2719, pag. 1108-1122, 2003.

22. C. Ambuehl, A. Clementi, P. Penna, G. Rossi, and R. Silvestri. *Energy Consumption in Radio Networks: Selfish Agents and Rewarding Mechanisms.* In Proc. of the 10th Colloquium on Structural Information and Communication Complexity (**SIROCCO-03**), Carleton Scientific Press, Proceeding in Informatics n.10, pag. 1-16, 2003.

23. M Cielibak, S. Eidenbenz, A. Pagourtzis, and P. Penna. *Noisy Data Make the Partial Digest NP-hard.* In Proc. of the 3rd Workshop on Algorithms in Bioinformatics (**WABI-03**), LNCS 2812, pp. 111-123, 2003. Also available as Technical Report of ETH, Institute of Theoretical Computer Science, 2002.

24. G. Bongiovanni and P. Penna. *XOR-based schemes for fast parallel IP lookups.* In Proc. of the 5th Italian Conference on Algorithms and Complexity (**CIAC-03**), LNCS 2653, pag. 238-250, 2003.

25. E. Kranakis, P. Penna, K. Schlude, D.S. Taylor, and P. Widmayer. *Improving Customer Proximity to Railway Stations.* In Proc. of 5th Italian Conference on Algorithms and Complexity (**CIAC-03**), LNCS 2653, pag. 264-276, 2003. Full version available as Technical Report 371 of ETH, Institute of Theoretical Computer Science, 2002.

26. Andrea E.F. Clementi, Gurvan Huiban, Paolo Penna, Gianluca Rossi, and Yann C. Verhoeven. *On the Approximation Ratio of the MST-based Heuristic for the Energy-Efficient Broadcast Problem in Static Ad-Hoc Radio Networks.* In Proc. of the 1st Workshop on Wireless, Mobile and Ad Hoc Networks (**WMAN-03**), 2003.

27. A.E.F. Clementi, G. Huiban, P. Penna, G. Rossi, and Y.C. Verhoeven. *Some Recent Theoretical Advances and Open Questions on Energy Consumption in Ad-Hoc Wireless Networks.* In Proc. of 3rd Workshop on Approximation and Randomization Algorithms in Communication NEtworks (**ARACNE-02**), Carleton Scientific Press, Vol. 15, pag. 23-38, 2002.

28. L. Anderegg, P. Penna, and P. Widmayer. *Online train disposition: to wait or not to wait?* In Proc. of ICALP 2002 Satellite Workshop on Algorithmic Methods and

Models for Optimization of Railways (**ATMOS-02**), Electronic Notes in Theoretical Computer Science 66 No. 6, Elsevier, 2002.

29. A. Pagourtzis, P. Penna, K. Schlude, K. Steinhofel, D.S. Taylor, and P. Widmayer. *Server Placements for Win-Win Strategies.* In Proc. of the 2nd IFIP International Conference on Theoretical Computer Science (**IFIP-TCS-02**), Kluwer Academic Publisher, pag. 280-291, 2002. Full version available as Technical Report 365, ETH Zurich, Institute of Theoretical Computer Science, October 2001.

30. T. Erlebach, M. Gantenbein, D. Huerlimann, G. Neyer, A. Pagourtzis, P. Penna, K. Schlude, K. Steinhoefel, D.S. Taylor, and P. Widmayer. *On the complexity of train assignment problems.* In Proc. of International Symposium on Algorithms and Computation (**ISAAC-01**), LNCS 2223, pag. 390-402, 2001.

31. A. Clementi, P. Crescenzi, A. Monti, P. Penna, and R. Silvestri. *On Computing Ad-Hoc Selective Families.* In Proc. of the 5th International Workshop on Randomization and Approximation Techniques in Computer Science (**RANDOM-01**), LNCS 2129, pag. 211- 222, 2001.

32. A. Clementi, P. Crescenzi, P. Penna, G. Rossi, and P. Vocca. *On the Complexity of Computing Minimum Energy Consumption Broadcast Subgraphs.* Proc. of the 18th Annual Symposium on Theoretical Aspects of Computer Science (**STACS-01**), LNCS 2010, pag. 121-132, 2001

33. A. Clementi, A. Ferreira, P. Penna, S. Perennes, and R. Silvestri. *The Minimum Range Assignment Problem on Linear Radio Networks.* In Proc. of the 8th Annual European Symposium on Algorithms (**ESA-00**), LNCS 1879, pag. 143-154, 2000.

34. P. Crescenzi, G. Gambosi, and P. Penna. *On-Line Algorithms for the Channel Assignment Problem in Cellular Networks.* In Proc. the ACM International Workshop on Discrete Algorithms and Methods for Mobile Computing (**DIALM-00**), pag. 1-7, 2000.

35. G. Bongiovanni, A. Clementi e P. Penna. *A Note on Parallel Read Operations on Large Public Databases.* In Proc of the InternationalWorkshop on Approximation and Randomized Algorithms in Communication Networks (**ARACNE-00**), Carleton Scientific Press, pag. 123- 133, 2000.

36. P. Penna. *Succinct Representations of Model Based Belief Revision.* In Proc. of the 17th Annual Symposium on Theoretical Aspects of Computer Science (**STACS-00**), LNCS 1770, pag. 205-216, 2000.

37. A. Clementi, P. Penna, and R. Silvestri. *The Power Range Assignment Problem in Radio Networks on the Plane.* In Proc. of the 17th Annual Symposium on Theoretical Aspects of Computer Science (**STACS-00**), LNCS 1770, pag. 651-660, 2000.

38. A. Clementi, P. Penna, and R. Silvestri. *Hardness Results for The Power Range Assignment Problem in Packet Radio Networks.* In Proc. of the 2nd. International Workshop on Approximation Algorithms for Combinatorial Optimization Problems (**APPROX-99**), LNCS 1671, pag. 197-208, 1999.

39. A. Andreev, A. Clementi, P. Penna, and J. Rolim. *Memory Organization Schemes for Large Shared Data: A Randomized Solution for Distributed Memory Machines.* In Proc. of the 16th Annual Symposium on Theoretical Aspects of Computer Science (**STACS-99**), LNCS 1563, pag. 68-77, 1999.

40. P. Penna and P. Vocca. *Proximity Drawings: Three Dimensions are Better than Two.* In Proc. of Graph Drawing (**GD-98**), LNCS 1547, pag. 275-287.

41. P. Penna and P. Vocca. *Proximity Drawings of Binary Trees in Polynomial Area.* In Proc. of the Canadian Conference on Computational Geometry, (**CCCG-98**), Electronic proceedings available at
http://cgm.cs.mcgill.ca/~cccg98/proceedings/welcome.html.

42. P. Crescenzi and P. Penna. *Minimum-Area h-v Drawings of Complete Binary Trees.* In Proc. of Graph Drawing (**GD-97**) , LNCS 1353, pag. 371-382, 1997.

43. P. Crescenzi and P. Penna. *Upward Drawings of Search Trees.* In Proc of the 22nd International Workshop on Graph-Theoretic Concepts in Computer Science (**WG-96**), LNCS 1197, pag. 114-125, 1997.

International Journals

44. V. Auletta, R. De Prisco, P. Penna, and P. Persiano. *The Power of Verification for One-parameter Agents.* **Journal of Computer and System Sciences**, 75:190-211, 2009.

45. V. Auletta, R. De Prisco, P. Penna, and P. Persiano. *Routing Selfish Unsplittable Traffic.* **ACM Transactions on Algorithms**, 3(4), 2007.

46. P. Crescenzi, G. Gambosi, G. Nicosia, P. Penna, and W. Unger. *On-line load balancing made simple: Greedy strikes back.* **Journal of Discrete Algorithms**, 5(1):162-175, 2007.

47. G. Bongiovanni and P. Penna. *XOR-based schemes for fast parallel IP lookups.* **Theory of Computing Systems**, 38: 481-501, 2005.

48. C. Ambuehl, A. Clementi, P. Penna, G. Rossi, and R. Silvestri. *On the Approximability of the Range Assignment Problem in Radio Networks in Presence of Selfish Agents.* **Theoretical Computer Science**, 343(1-2): 27-41, 2005.

49. M. Cieliebak, S. Eidenbenz, and P. Penna. *Partial Digest is hard to solve for erroneous input data.* **Theoretical Computer Science**, 349(3): 361-381, 2005.

50. P. Crescenzi, G. Gambosi, and P. Penna. *On-Line Algorithms for the Channel Assignment Problem in Cellular Networks.* **Discrete Applied Mathematics**, 137(3):237-266, 2004.

51. A. Clementi, P. Penna, and R. Silvestri. *On the Power Assignment Problem in Radio Networks.* **ACM Mobile Networks and Applications**, 9(2):125-140, 2004.

52. P. Penna and P. Vocca. *Proximity Drawings in Polynomial Area and Volume.* **Computational Geometry: Theory and Applications**, 20:91-116, 2004.

53. A. Clementi, A. Ferreira, P. Penna, S. Perennes, and R. Silvestri. *The Minimum Range Assignment Problem on Linear Radio Networks.* **Algorithmica**, 35: 95-110, 2003.

54. P. Penna. *On the Approximability of Two Tree Drawing Conventions.* **Information Processing Letters**, Vol. 82/5, pag. 237-242, 2002.

55. P. Crescenzi and P. Penna. *Strictly-upward drawings of ordered search trees.* **Theoretical Computer Science**, Vol. 203, No. 1, pag. 51-67, 1998.

56. P. Crescenzi, P. Penna, and A. Piperno. *Linear Area Upward Drawings of AVL Trees.* **Computational Geometry: Theory and Applications**, Vol. 9, No. 1-2, pag. 25-42, 1998.

Chapters in Books

57. A. Ferreira, J. Galtier, and P. Penna. *Topological design, routing and hand-over in satellite networks.* Chapter in Handbook of Wireless Networks and Mobile Computing, John Wiley & Sons, pag. 473-491, 2002.

Others

58. A. Andreev, A. Clementi, P. Penna, and J. Rolim. *Parallel Read Operations Without Memory Contention.* Technical report of Electronic Colloquium in Computational Complexity, ECCC TR-0053, 2000. (Also submitted to international journal)

59. A. Clementi, P. Crescenzi, P. Penna, G. Rossi, and P. Vocca. *A Worst-case Analysis of a MST-based Heuristic to Construct Energy-efficient Broadcast Subtrees in Wireless Networks.* Technical Report 010 of the Univ. of Rome "Tor Vergata", 2001. Available at http://www.mat.uniroma2.it/~penna/papers/stacs01-TR.ps.gz (Also submitted to international journal)

60. J. Galtier and P. Penna. *Complexity Links Between Matrix Multiplication, Klees Measure and Call Access Control for Satellite Constellations.* INRIA TR-4166, France, April 2001. Available at `ftp://ftp-sop.inria.fr/pub/rapports/.INDEX.html`

61. P. Penna and C. Ventre. *Some New Ideas for Critical Resource Sharing Involving Selfish Agents.* Manuscript, 2005.

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