

Curriculum Vitae

Ioannis Z. Milis

Professor, Department of Informatics,
Athens University of Economics and Business

1. Personal details

- Born 1/8/1960, Partheni, Arcadia, Greece
- Nationality: Greek
- Married, one daughter
- Home: F. Negri 48, 11361 Athens, Greece
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2. Studies

- B.E.E., Department of Electrical Engineering, Democritus University of Thrake, 1983
- Ph. D. in Informatics, Department of Informatics, Athens University of Economics, 1989

3. Research interests

Design and analysis of algorithms; applications to computer and communication systems and networks, energy efficient computing, combinatorial optimization, graph theory and game theory.

4. Positions

- Researcher, Greek Ministry of Defence, Research Division (during military service, 1989-91).
- Post-doc Researcher, Athens University of Economics and Business (1991-92).
- Post-doc Researcher, Laboratoire de Recherche en Informatique (LRI), Université Paris-Sud XI (Orsay) (1992-1994).
- Post-doc Researcher, Institut National de Recherche en Informatique et en Automatique, INRIA - Sophia Antipolis (1994-95).
- Post-doc Researcher, National Technical University of Athens (NTUA), Department of Electrical and Computer Engineering (1996-98).
- Visiting Lecturer, National and Kapodistrian University of Athens (NKUA), Department of Informatics (1997-98).
- Visiting Lecturer, Athens University of Economics and Business (AUEB), Department of Informatics (1997-98).
- Assistant Professor (1998-2004), Associate Professor (2004-2012), Professor (2012-), Athens University of Economics and Business (AUEB), Department of Informatics.
- Visiting Researcher, LiX, École Polytechnique, Spring 2005, Fall 2010.
- Visiting Researcher, IBISC, Université d'Évry Val-d'Essonne, Fall 2010.
- Visiting Researcher, LAMSADE, Université Paris-Dauphine, Spring 2007, Spring 2011, Fall 2012.

5. Research grants

- *Mapping problems in parallel computing: cases, algorithms and complexity*, European Commission, Program Human Capital and Mobility, Université de Paris-Sud XI (Orsay), 68 Kecu, 1993-94.
- *Quantification, qualification and experimentation for parallel computing and networking*, European Commission, Program Human Capital and Mobility, INRIA-Sophia Antipolis, 37 Kecu, 1995.
- *Algorithmic tools for efficient scheduling in parallel computing environments*, European Commission, Program Training and Mobility of Researchers, National Technical University of Athens, 36 Kecu, 1996-97.
- *Scheduling tools for efficient parallel processing*, Greek National Fellowships Foundation, National Technical University of Athens, 2.4 Mdrachmas, 1997-98.
- *Scheduling problems in computer and communication systems*, Research Center of Athens University of Economics and Business, 700 Kdrachmas, 2000-01.
- *APPROXIMATION and On-Line algorithms (APPOL)*, European Commission, Program IST-FET, National Technical University of Athens, 9.000 €, 1999-2000.
- *APPROXIMATION and On-Line algorithms II (APPOL II)*, European Commission, Program IST-FET, Athens University of Economics and Business, 14.400 €, 2001-2004.
- *Optimization problems in computer and communication networks: theoretical foundations, design of efficient algorithms and development of experimental software*, Greek General Secretariat for Research and Technology, Program PENED 2003, Athens University of Economics and Business, 40.000 €, 2006-2008.
- *Weighted graph coloring problems and applications*, Basic Research Funding Program (BRFP) of Athens University of Economics and Business, 7.300 €, 2008.
- *Generalized graph coloring problems and applications*, Mairie de Paris, Programme “Research in Paris”, LAMSADE, Université Paris-Dauphine et CNRS, Paris, 18.000 €, 2011.
- *Algorithms for power management in computing environments*, Greek General Secretariat for Research and Technology, Program HRAKLEITOS II, Athens University of Economics and Business, 45.000 €, 2010-13.
- *Algorithms of today: social networks, data streaming, resource allocation and power management in communication and computing systems*, Greek General Secretariat for Research and Technology, Program THALIS, Athens University of Economics and Business, 150.000 €, 2012-15.
- *Handling uncertainty in data intensive applications on a distributed computing environment (cloud computing)*, Greek General Secretariat for Research and Technology, Program THALIS, Athens University of Economics and Business, 50.000 €, 2012-15.

6. Professional services

Program Committees

- **Vice Chair**, EURO-PAR 2002, Topic 3: Scheduling and Load Balancing.
- Co-founder of the Athens Colloquium on Algorithms and Complexity (ACAC), Committee member 2006-2013.
- **Co-chair**, ISCO 2012, 2nd International Symposium on Combinatorial Optimization.
- **Local Chair**, EURO-PAR 2012, Topic 3: Scheduling and Load Balancing.
- **Member**, APEX 2013, 2nd Int. Workshop on Approximation, Parameterized and EXact algorithms.
- **Member**, ISCO 2014, 3rd International Symposium on Combinatorial Optimization.

Editorial services

- **Co-editor**, Proceedings of the 2nd International Symposium on Combinatorial Optimization (ISCO 2012), Lecture Notes in Computer Science 7422 (2012).
- **Guest co-editor**, Theoretical Computer Science, Special issue on Combinatorial Optimization, in preparation, 2012.

Refereeing

- **Journals:** SIAM Journal on Computing, Algorithmica, Theoretical Computer Science, Discrete Mathematics, Journal of Graph Theory, Distributed Computing, Parallel Computing, Annals of Operation Research, Artificial Intelligence in Medicine, Parallel Processing Letters, Sustainable Computing: Informatics and Systems.
- **Conferences:** Symposium on Theoretical Aspects of Computer Science (STACS), European Symposium of Algorithms (ESA), Approximation Algorithms for Combinatorial Optimization Problems (APPROX), Workshop on Approximation and Online Algorithms (WAOA), Principles of Database Systems (PODS), IFIP-Networking, Combinatorics and Computer Science (CCS), International Conference on Algorithms and Complexity (CIAC).

Project's proposals evaluation

- Greek General Secretariat for Research and Technology, Greek national calls, 2003-2012.
- AXA Reseach Fund, Paris, France, Post-doctoral grants and Research projects, 2008.

Organizing committees

- Organizer, ISCO 2012, 2nd International Symposium on Combinatorial Optimization, Athens University of Economics and Business, April 19-21, 2012.
- Organizer, Spring School on "Mathematical Programming and Design of Approximation Algorithms" by David Shmoys and David Williamson, Athens University of Economics and Business, April 11-18, 2012.
- Co-organizer of the Athens Colloquium on Algorithms and Complexity (ACAC), 2006-2012
- Organizer, *APPOL Workshop*, (final meeting of the IST-FET APProximation and On-Line algorithms II (APPOL II) project, Athens University of Economics and Business, September 30-October 2, 2004.
- Organizer, Greek-French Workshop on Graph Algorithms and Applications (GA²), Athens, Greece, October 29-30, 1996.
- Organizing committee member, International Conference on Database Theory, ICDT'97, Delphi, Greece, January 8-10, 1997.

Invited talks

- International Workshop on *Scheduling in Parallel and Distributed Systems*, Luminy, France, June 10-14, 1996.
- Dagstuhl Seminar 9723, *Scheduling in Computer and Manufacturing Systems*, Dagstuhl Research Center, Dagstuhl, Germany, June 2-6, 1997.
- International Workshop *New Trends on Scheduling in Parallel and Distributed Systems*, Aussois, France, June 15-19, 1998.
- International Workshop *Perspectives on Scheduling in Parallel and Distributed Systems*, Luminy, France, October 1-5, 2001.
- Dagstuhl Seminar 02251, *Approximation and Randomized Algorithms in Communication Networks*, Dagstuhl Research Center, Dagstuhl, Germany, June 16-21, 2002.
- Also in several European Universities and research Institutes:
 - INRIA Sophia-Antipolis, MISTRAL seminar.
 - Max-Planck-Institut für *Informatik*, Algorithms and Complexity seminar.
 - Université d'Évry-Val d'Essonne, OPAL seminar.
 - École Normale Supérieure (ENS), Département d'Informatique, TALGO seminar.

7. Ph.D. students

- Giorgio Lucarelli,
Scheduling in Computer and Communication Systems and Generalized Graph Coloring Problems, October 2009 (now post-doctoral researcher in LIP6, Université Pierre et Marie Curie).
- Georgios Zois,
Algorithms for Energy-Efficient Computing, cotutelle with Evripidis Bampis, Université Pierre et Marie Curie, Started November 2010.

8. Publications

Theses

- T1.** I. Milis, *Task assignment in distributed computing systems: algorithms and complexity*, Ph.D. Thesis (in Greek), Departement of Informatics, Athens University of Economics and Business, 1989.
- T2.** I. Milis, *Computer aided design of photovoltaic systems*, B.E.E Thesis (in Greek), Department of Electrical Engineering, Democritus University of Thrake, 1983.

Books

- B1.** J. C. Cavouras, I. Z. Milis, G. V. Xylomenos, and A. A. Roukounaki, *Distributed Systems with Java*, Klidarithmos Editions, Athens 2005, pages xiv+557 (in Greek).

Book Chapters

- Ch1.** I. Milis, *Approximating a class of classification problems*, in "Efficient Approximation and Online Algorithms: Recent Progress on Classical Combinatorial Optimization Problems and New Applications", Lecture Notes in Computer Science (*State-of-the-Art Volume*) 3484 (2006) 213-249.
- Ch2.** M. Demange, B. Escoffier, G. Lucarelli, I. Milis, J. Monnot, V. Th. Paschos and D. De Werra, *Weighted Edge Coloring*, in "Combinatorial Optimization and Theoretical Computer Science: Interfaces and Perspectives", Wiley-ISTE (2008) 291-317.

Editorials

- E1.** M. Drozdowski, I. Milis, L. Rudolph and D. Trystram, *Introduction, Topic 3: Scheduling and Load Balancing*, In Proc. 6th International Euro-Par Conference (EURO-PAR' 02), Lecture Notes in Computer Science 1900 (2002).
- E2.** E. Markakis and I. Milis, In Proc. 4th Athens Colloquium on Algorithms and Complexity, CoRR abs/0909.5479 (2009).
- E3.** A. R. Mahjoub, E. Markakis, I. Milis, V. Th. Paschos, *Preface*, In Proc. 2nd International Symposium on Combinatorial Optimization (ISCO 2102), Revised Selected Papers, Lecture Notes in Computer Science 7422 (2012).
- E4.** D. Trystram, I. Milis, Z. Du, U. Schwiegelshohn, *Introduction, Topic 3: Scheduling and Load Balancing*, In Proc. 18th International Euro-Par Conference (EURO-PAR' 12), Lecture Notes in Computer Science 7484 (2012).

International journals

- J1.** V. F. Magirou and I. Milis, *An algorithm for the multiprocessor assignment problem*, Operations Research Letters 8 (1989) 351-356.
- J2.** I. Milis and V. F. Magirou, *A Lagrangian relaxation algorithm for sparse quadratic assignment problems*, Operations Research Letters 17 (1995) 69-76.
- J3.** E. Bampis, Y. Manoussakis and I. Milis, *NC algorithms for antirected Hamiltonian paths and cycles in tournaments*, Journal of Combinatorial Mathematics and Combinatorial Computing 21 (1996) 223-234.
- J4.** L. Finta, Z. Liu, I. Milis and E. Bampis, *Scheduling UET-UCT series-parallel graphs on two processors*, Theoretical Computer Science 162 (1996) 323-340.
- J5.** E. Bampis, A. Giannakos, A. Karzanov, Y. Manoussakis and I. Milis, *A parallel algorithm for finding a perfect matching in a planar graph*, Parallel Processing Letters 8 (1998) 399-405.
- J6.** Y. Manoussakis and I. Milis, *A sufficient condition for maximum cycles in bipartite digraphs*, Discrete Mathematics 207 (1999) 161-171.
- J7.** E. Bampis, Y. Manoussakis and I. Milis, *On the parallel complexity of the alternating Hamiltonian cycle problem*, RAIRO-Operations Research. 33 (1999) 421-437.
- J8.** E. Bampis, A. Giannakos, A. Karzanov, Y. Manoussakis and I. Milis, *Perfect matching in general vs. cubic graphs: a note on the planar and bipartite cases*, Theoretical Informatics and Applications 34 (2000) 87-98.
- J9.** F. Afrati, E. Bampis, C. Kenyon and I. Milis, *A PTAS for the average weighted completion time problem on unrelated machines*, Journal of Scheduling 3 (2000) 323-332.
- J10.** F. Afrati, E. Bampis, L. Finta and I. Milis, *Scheduling trees with large communication delays on two identical processors*, Journal of Scheduling 8 (2005) 179-190.
- J11.** F. Afrati, T. Aslanidis, E. Bampis and I. Milis, *Scheduling in switching networks with set-up delays*, Journal of Combinatorial Optimization 9 (2005) 49-57.
- J12.** F. Afrati and I. Milis, *Designing PTASs for MIN-SUM scheduling problems*, Discrete Applied Mathematics 154 (2006) 622-639.
- J13.** M. Liazi, I. Milis, F. Pascual, V. Zissimopoulos, *The densest k-subgraph problem on clique graphs*, Journal of Combinatorial Optimization 14 (2007) 465-474.
- J14.** M. Liazi, I. Milis, V. Zissimopoulos, *A constant approximation algorithm for the densest k-subgraph problem on chordal graphs*, Information Processing Letters 108 (2008), 29-32.
- J15.** G. Lucarelli, I. Milis and V. Th. Paschos, *On the max-weight edge coloring problem*, Journal of Combinatorial Optimization 20 (2010) 429-442.
- J16.** N. Bourgeois, G. Lucarelli, I. Milis, V. Th. Paschos, *Approximating the max edge-coloring problem*, Theoretical Computer Science 411 (2010) 3055-3067.
- J17.** G. Lucarelli, I. Milis, *Improved approximation algorithms for the Max-Edge Coloring problem*, Information Processing Letters 111 (2011) 819-823.
- J18.** N. Bourgeois, A. Giannakos, G. Lucarelli, I. Milis, V. Th. Paschos, O. Pottié, *The max quasi-independent set problem*, Journal of Combinatorial Optimization 23 (2012) 94-117.
- J19.** E. Bampis, C. Dürr, F. Kacem, I. Milis, *Speed scaling with power down scheduling for agreeable deadline*, Sustainable Computing: Informatics and Systems 2 (2012) 184-189.
- J20.** E. Bampis, D. Letsios, G. Lucarelli, E. Markakis, I. Milis, *On multiprocessor temperature-aware scheduling problems*, Journal of Scheduling, 16 (2013) 529-538.
- J21.** E. Bampis, A. Kononov, G. Lucarelli, I. Milis, *Bounded max-colorings of graphs*, Journal of Discrete Algorithms, to appear.

International conferences

- C1. V. F. Magirou and I. Milis, *An algorithm for the multiprocessor assignment problem*, In Proc. 1st Balcan Conference on Operations Research (1988) 166-177.
- C2. I. Milis and V. F. Magirou, *A Lagrangean relaxation algorithm for the task and the quadratic assignment problems*, In Proc. HERMIS'92 Conference (1992) 267-279.
- C3. E. Bampis, Y. Manoussakis and I. Milis, *NC algorithms for antirected Hamiltonian paths and cycles in tournaments*, In Proc. 20th Int. Workshop Graph Theoretic Concepts in Computer Science (WG '94), Lecture Notes in Computer Science 903 (1995) 387-394.
- C4. I. Milis, *Task assignment in distributed systems using network flow methods*, In Proc. Conf. on Combinatorics and Computer Science (CCS'95), Lecture Notes in Computer Science 1120 (1996) 396-405.
- C5. E. Bampis, Y. Manoussakis and I. Milis, *On the parallel complexity of the alternating Hamiltonian cycle problem*, In Proc. Combinatorics and Computer Science Conference (CCS'95), Lecture Notes in Computer Science 1120 (1996) 367-377.
- C6. F. Afrati, E. Bampis, C. Kenyon and I. Milis, *Scheduling on a constant number of processors*, In Proc. 2nd International Workshop on Approximation Algorithms for Combinatorial Optimization Problems (APPROX'99), Lecture Notes in Computer Science 1671 (1999) 281-287.
- C7. F. Afrati, E. Bampis, C. Kenyon and I. Milis, *Scheduling to minimize the weighted sum of completion times, on a constant number of processors*, Accepted in 40th IEEE Symposium on Foundations of Computer Science (FOCS'99), Merged with another submission into C7- b.
- C7-a. F. Afrati, E. Bampis, C. Chekuri, D. Karger, C. Kenyon, S. Khanna, I. Milis, M. Queyranne, M. Skutella, C. Stein and M. Sviridenko, *Approximation schemes for minimizing average weighted completion time with release dates*, In Proc. 40th IEEE Symposium on Foundations of Computer Science (FOCS'99) (1999) 32-43 (plenary session).
- C8. F. Afrati, E. Bampis, L. Finta and I. Milis, *Scheduling trees with large communication delays on two identical processors*, In Proc. 6th International Euro-Par Conference (EURO-PAR'00), Lecture Notes in Computer Science 1900 (2000) 288-295.
- C9. F. Afrati and I. Milis, *Designing PTASs for MIN-SUM scheduling problems*, In Proc. 13th International Symposium Fundamentals of Computation Theory (FCT'01), *Invited paper* in the Workshop on Efficient Algorithms (WEA'01), Lecture Notes in Computer Science 2138 (2001) 432-444.
- C10. F. Afrati, T. Aslanidis, E. Bampis and I. Milis, *Scheduling in switching networks with set-up delays*, In Proc. 4^{èmes} Rencontres Francophones sur les aspects Algorithmiques des Télécommunications (ALGOTEL'02).
- C11. M. Liazi, I. Milis and V. Zissimopoulos, *Polynomial variants of the densest/heaviest k-subgraph problem*, 20th British Combinatorial Conference (BCC'05).
- C12. M. Liazi, I. Milis, F. Pascual, V. Zissimopoulos. *The densest k-subgraph problem on clique graphs*, International Combinatorics, Geometry and Computer Science Conference, Marseille, 2007.
- C13. I. Milis, A. Pagourtzis, K. Potika, *Routing and Path Coloring in All-Optical Networks*, In Proc. 4th Workshop Combinatorial and Algorithmic Aspects of Networking (CAAN'07), Lecture Notes in Computer Science 4852 (2007) 71-84.
- C14. G. Lucarelli, I. Milis and V. Th. Paschos, *On a generalized graph coloring/batch scheduling problem*, In Proc. 3rd Multidisciplinary International Conference on Scheduling: Theory and Applications (MISTA'07) 353-360.
- C15. E. Bampis, G. Lucarelli and I. Milis, *On a batch scheduling problem with compatibility and cardinality constraints*, 8th Workshop on Models and Algorithms for Planning and Scheduling Problems (MAPSP'07)

- C16.** G. Lucarelli, I. Milis, V. Th. Paschos, *On the maximum edge coloring problem*, In Proc. 6th Workshop on Approximation and Online Algorithms (WAOA'08), Lectures Notes in Computer Science 5426 (2009) 279-292.
- C17.** N. Bourgeois, G. Lucarelli, I. Milis, V. Th. Paschos, *Approximating the max edge-coloring problem*, In Proc. 20th International Workshop on Combinatorial Algorithms (IWOCA '09) Lectures Notes in Computer Science 5874 (2009) 83-94.
- C18.** N. Bourgeois, A. Giannakos, G. Lucarelli, I. Milis, V. Th. Paschos, O. Pottié, *The max quasi-independent set problem*, In Proc. 5th International Computer Science Symposium in Russia (CSR '10), Lectures Notes in Computer Science 6072 (2010) 60-71.
- C19.** E. Bampis, A. Kononov, G. Lucarelli, I. Milis, *Bounded max-colorings of graphs*, In Proc. 21st International Symposium on Algorithms and Computation (ISAAC'10), Lectures Notes in Computer Science 6506 (2010) 353-365.
- C20.** G. Lucarelli, I. Milis, *Improved approximation algorithms for the Max-Edge Coloring problem*, In Proc. 1st International ICST Conference on Theory and Practice of Algorithms in (Computer) Systems (TAPAS'11), Lectures Notes in Computer Science 6595 (2011) 206-216.
- C21.** E. Bampis, D. Letsios, G. Lucarelli, E. Markakis, I. Milis, *On multiprocessor temperature-aware scheduling problems*, In Proc. 6th International Frontiers of Algorithmics Workshop – 8th International Conference on Algorithmic Aspects of Information and Management (FAW-AAIM'12), Lectures Notes in Computer Science 7285 (2012) 149-160
- C22.** E. Bampis, D. Letsios, I. Milis, G. Zois, *Speed Scaling for Maximum Lateness*, In Proc. 18th Annual Int. Computing and Combinatorics Conference (COCOON'12), Lectures Notes in Computer Science 7434 (2012) 25-36.
- C23.** C. Dürr, I. Milis, J. Robert and G. Zois, *Throughput Approximation for Temperature-Aware scheduling*, In Proc. 10th International Workshop Approximation and Online Algorithms (WAOA'12), Lectures Notes in Computer Science 7846 (2013), 187-200.
- C24.** N. Bourgeois, A. Giannakos, G. Lucarelli, I. Milis, V. Th. Paschos, *Exact and approximation algorithms for densest k -subgraph*, In Proc. 7th International Workshop on Algorithms and Computation (WALCOM'13), Lectures Notes in Computer Science 7748 (2012) 114-125.
- C25.** E. Bampis, V. Chau, D. Letsios, G. Lucarelli, I. Milis, *Energy Minimization via a Primal-dual Algorithm for a Convex Program*, In Proc. 12th International Symposium on Experimental Algorithms (SEA'13), Lectures Notes in Computer Science, 7933 (2013) 366-377