CLAUDIO ARBIB

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General

Born in Rome, 1958.
Present position: full professor of Operations Research since November 2000.

1992. Associate Professor in Operations Research at the University of L'Aquila
1987. Assistant Professor in Operations Research at the II University of Rome
       PhD. in Computer and System Science at the University of Rome "La Sapienza"
1984. Research grant within an ESPRIT project on Artificial Intelligence
1982. Degree in Electronic Engineering at the University of Rome "La Sapienza"

Teaching

2005-2008	Course of *Operations Research*, teacher, University of L'Aquila, Faculty of Sciences, Laurea Degree in Computers and in Mathematics.
2005-2008	Course *Optimization of Industrial Production and Logistics*, teacher, University of L'Aquila, Faculty of Sciences, Laurea Degree in Computers and in Mathematics.
2005	Course of *Integrated Production Systems*, teacher, University of L'Aquila and Micron Technology Italia, II Level Master in Microelectronics.
1996-05	Courses of *Operations Research I and II*, teacher, University of L'Aquila, Faculty of Sciences, Laurea Degree in Computers and in Mathematics.
2002-03	Courses of *Operations Management*, Post Laurea Degree in Computer Technologies for the New Economy, University of Milano Bicocca.
2000-01	Course of *Operations Research*, contract teacher, University of L'Aquila, Faculty of Engineering, Laurea Degree in Mechanical Eng. and in Electronic Eng.
1997-01	Courses of *Combinatorial Optimization I and II*, and of *Decision Support Systems* University of L'Aquila, Faculty of Sciences, Laurea Degree in Computers and in Mathematics.
1996-01	Coordinator of the curricula on *Decision Models*, University of L'Aquila, Faculty of Science, Laurea Degree in Computers.
1998-00	Courses of *Models of Production Systems*, contract teacher, University of Rome 3, Faculty of Engineering, Laurea Degree in Engineering.
1997-98	Seminars on *Scheduling Theory*, University of Rome "La Sapienza", Ph.D. in Operations Research.
1994-96	Course of *Operations Research*, teacher, University of L'Aquila, Faculty of Sciences, Laurea Degree in Computer Science and in Mathematics.
1992-96	Courses of *Optimization: Theory and Methods*, teacher, University of L'Aquila, Faculty of Sciences, Laurea Degree in Computer Science.
1992-94	Course of *Operations Research*, contract teacher, University of L'Aquila, Faculty of Sciences, Laurea Degree in Computers and in Mathematics.
1992-93	Seminars on *Combinatorial Optimization*, university of Rome "La Sapienza", Ph.D. in Computer Science.
1991-92	Course of *Optimization: Theory and Methods*, contract teacher, University of L'Aquila, Faculty of Science, Laurea Degree in Computer Science.
1987-91	Courses of *Operations Research*, seminars, University of Rome "Tor Vergata", Faculty of Engineering, Laurea Degree in Engineering.

Courses of *Combinatorial Optimization*, teacher, University of Rome "La Sapienza", Post Laurea Degree in Mathematical Methods for System Analysis and Control.

1989-90   Course of *Calculus I*, assistant, University of Rome "Tor Vergata", Faculty of Engineering, Laurea Degree in Engineering.

1988   Course of *Economy and Management*, seminars, University of Rome "Tor Vergata", Faculty of Engineering, Laurea Degree in Engineering.

Membership

From 2005 in the Scientific Committee of the CIRO – Centro Interuniversitario per la Ricerca Operativa (national Inter-university Center for Operational Research).

From 2004 in the board of experts for the evaluation of national research (CIVR).

From 2002 in the board of the AIRO – Optimization and Decision Science (Italian Operational Research Society).

From 1990 in the Editorial Board of the International Journal of Flexible Manufacturing Systems.

From 1993 to 2002 in the Editorial Board of the Journal of the Italian Operational Research Society.

Other

Team leader of national/international research projects by Italian National Research Council (CNR) and Italian Ministry of Education and University (MIUR) on telecommunications, transportation, integrated logistics and combinatorial algorithms.

Responsible of a research unit in an EC Cooperative Research Project on Cutting and Packing within the 6th Framework Programme.

Responsible of research units in EC Projects on Information and Communication Technologies within the 5th Framework Programme.

Participation as invited speaker and/or in the organizing/scientific committee of national and international conferences; program Chair of AIRO 2002 (L'Aquila, Italy, September 2002), AIRO Winter 2005 (Cortina d'Ampezzo, Italy, January 2005), AIRO Winter 2007 (Cortina d'Ampezzo, Italy, February 2007), 5th ESICUP Meeting (L'Aquila, Italy, April 2008).

From 2004 to 2007 chair of the educational area in Computer Science of the Faculty of Science, University of L'Aquila.

From December 2008, chair of the Department of Computer Science of the University of L'Aquila.

Selected publications

Journals

1. C. Arbib, F. Marinelli, "Exact and Asymptotically Exact Solutions for a Class of Assortment Problems", *INFORMS J. on Computing*, forthcoming (2008).

2. C. Arbib, G. Felici (eds.), *Recent OR Contributions in Network Problems*, *feature issue of the European J. of Operational Research*, forthcoming (2008).

3. C. Arbib, F. Rossi, S. Smriglio (eds.), *Combinatorial Optimization and Applications, special volume of Annals of Operations Research in honour of Mario Lucertini*, **150**, 1 (2007).

4. C. Arbib, F. Marinelli, "An Optimization Model for Trim Loss Minimization in an Automotive Glass Plant", *European J. of Operational Research* **183**, 3 (2007) 1421-1432.

5. C. Arbib, F. Marinelli, "Integrating Process Optimization and Inventory Planning in Cutting-stock with Skiving Option: an Optimization Model and its Application", *European J. of Operational Research* **163**, 3 (2005) 617-630.

6. C. Arbib, M. Servilio, S. Smriglio, "A Competitive Scheduling Problem and its Relevance in UMTS Channel Assignment", *Networks* **44**, 2 (2004) 132-141.

7. C. Arbib, F. Marinelli, "The Lazy Cook Problem, or Scheduling Two Parallel Machines to Minimize Vehicle Utilization", *Int. J. of Flexible Manufacturing Systems* **15**, 4 (2003) 333-354.

8. C. Arbib, F. Marinelli, "Scheduling and Control of Material Handling in a Flexible Manufacturing Cell", *Ricerca Operativa* **31**, 101-102 (2002) 73-94.

9. C. Arbib, G. Ciaschetti, A. Petrucci, "Mold and Job Scheduling in Plastic Printing: a Column Generation Approach", *Ricerca Operativa* **31**, 101-102 (2002) 53-72.

10. C. Arbib, F. Di Iorio, F. Marinelli, F. Rossi, "Cutting and Reuse: an Application from Automotive Component Manufacturing", *Operations Research* **50**, 6 (2002) 923-934.

11. C. Arbib, A. Caprara, "On the Stability Number of the Edge Intersection of Two Graphs", *Information Processing Letters* **83** (2002) 173-174.

12. C. Arbib, R. Mosca, "On (P_5, diamond)-free Graphs", *Discrete Mathematics* **250** (2002) 1-22.

13. C. Arbib, M. Flammini, "On the Upper Chromatic Number of (v_3,b_2)-Configurations", *Discrete Applied Mathematics* **120** (2002) 3-12.

14. C. Arbib, C., A. Da Soghe, G. Iuliano, "Optimizing Multi-chamber Work Cell Management: an Application to an AMOS Wafer Fab", *IEEE Trans. on Semiconductor Manufacturing* **14**, 3 (2001) 1-8.

15. C. Arbib, F. Rossi, "Optimal Resource Assignment Through Negotiation in a Multi-agent Manufacturing System", *IIE Transactions* **32** (2000) 963-974.

16. C. Arbib, F. Rossi, "An Optimization Problem Arising in the Design of Multiring Systems", *European J. of Operational Research* **124**, 1 (2000) 63-76.

17. C. Arbib, M. Flammini, E. Nardelli, "How to Survive while Visiting a Graph", *Discrete Applied Mathematics* **99** (2000) 279-293.

18. C. Arbib, "A Bound on the Stability Number of Graphs with Boxicity k (an Exercise)", *Ricerca Operativa* **29**, 90 (1999) 55-61.

19. C. Arbib, R. Mosca, "Polynomial Algorithms for Special Cases of the Balanced Bipartite Subgraph Problem", *J. of Combinatorial Mathematics and Combinatorial Computing* **30** (1999) 3-22.

20. C. Arbib, D. Pacciarelli, S. Smriglio, "A Three Dimensional Matching Model for Perishable Production Scheduling", *Discrete Applied Mathematics* **92** (1999) 1-15.

21. Agnetis, A., C. Arbib, "Concurrent Operations Assignment and Sequencing for Particular Assembly Problems in Flow Lines", *Annals of Operations Research* **69** (1997) 1-31.

22. Agnetis, A., C. Arbib, M. Lucertini, F. Nicolò, "Task Assignment and Sub-assembly Scheduling in Flexible Assembly Lnes", *IEEE Transactions on Robotics and Automation* **11**, 1 (1995), 1-20.

23. Arbib, C., M. Lucertini, F. Nicolò, "Workload Balancing and Part Transfer Minimization in Flexible Manufacturing Systems", *International Journal of Flexible Manufacturing Systems* **3**, 1 (1991) 5-25.

24. Arbib, C., M. Lucertini, F. Nicolò, "Optimization Models for Flexible Manufacturing Systems", *Wissenshaftliche Zeitschrift* **12**, 2 (1988) 67-73.

25. Arbib, C., G.F. Italiano, A. Panconesi, "Predicting Deadlock in Store-and-forward Networks", *Networks* **20** (1990) 861-881.

26. Agnetis, A., C. Arbib, M. Lucertini, F. Nicolò, "Part Routing in Flexible Assembly Systems", *IEEE Transactions on Robotics and Automation* **6**, 6 (1990) 697-705.

27. Arbib, C., "A Polynomial Characterization of Some Graph Partitioning Problems", *Information Processing Letters* **26** (1987/88) 223-230.

International conferences – contributions to volumes

28. C. Arbib, M. Flammini, F. Marinelli, "Minimum Flow Time Graph Ordering", Proc. of the WG'02: Graph Theoretic Concepts in Computer Science, *Lecture Notes in Computer Science* n. 2880, Springer-Verlag (2003) 23-33.

29. C. Arbib, G. Bogo, C. Campa, S. Chini, F. Del Sorbo, L. Dimopoulou, G. Lombardi, S-H. Oh, J.M. Sanchez, M. Servilio: "QoS Provision and IP Multimedia Services in FUTURE - Physical

Demonstrator Architecture for Experiments", *IST Mobile & Wireless Telecommunications Summit 03*, Aveiro, Portugal (June 2003).

30. M. Albani, C. Arbib, F. Del Sorbo, A. Giralda, G. Leoleis, G. Lombardi, S-H. Oh, J.M. Sanchez, M. Servilio: "Framework of Resource Management for S-UMTS", *IST Mobile & Wireless Telecommunications Summit 03*, Aveiro, Portugal, (June 2003).

31. M. Albani, C. Arbib, V. Arvia, F. Del Sorbo, A. Giralda, C.F. Grecas, G. Lombardi, S-H. Oh, J.M. Sanchez, D.C. Schultz, M. Servilio, "A QoS Concept for Packet Oriented S-UMTS Services", *IST Mobile & Wireless Telecommunications Summit 2002*, Thessaloniki, GR (June 2002).

32. C. Arbib, F. Rinaldi, "The Subpartition Problem", ECCO XIII Conference, Capri, I (May 2000).

33. C. Arbib, G. Ciaschetti, F. Rossi, "Distributing Material Flows in a Manufacturing System with Large Product Mix: Two Models Based on Column Generation", in: M.G. Speranza, P. Stähly (eds.), *New Trends in Distribution Logistics*, *Lecture Notes in Economics and Mathematical Systems*, n. 484, Springer-Verlag (1999) 235-249.

34. C. Arbib, "A Primal-Dual Property of the Upper Chromatic Number of Mixed Hypergraphs", *6th Twente Workshop on Graphs and Combinatorial Optimization*, Enschede, NL (May 26-28, 1999).

35. Agnetis, A., C. Arbib, M. Lucertini, "The Combinatorial Approach to Flow Management in FMS", in P. Brandimarte, A. Villa (eds.): *Optimization Models and Concepts in Production Management*, Gordon and Breach Science Publishers, Basel (1995).

36. Agnetis, A., C. Arbib, M. Lucertini, "Combinatorial Models for Manufacturing: Optimizing Flow Management in Flexible Production Systems", in T.A. Ciriani, R.C. Leachman (eds.): *Optimization in Industry*, J. Wiley & Sons (1993).

37. Arbib, C., U. Mocci, C. Scoglio, "Methodological Aspects of Ring Network Design", in P. Kall (ed.): *System Modelling and Optimization: Proc. of the 15th IFIP Conference*, Lecture Notes in Control and Information Sciences, 180, Springer-Verlag (1992).

38. Agnetis, A., C. Arbib, M. Lucertini, F. Nicolo', "Task Assignment in Pipeline Assembly Systems", *Proceedings of the 1992 IEEE Conference on Robotics and Automation*, Nice, France (1993).

39. Arbib, C., U. Mocci, C. Scoglio, "Optimal Multiplexing of Packetized Traffics with Different Requirements", *Proceedings of the SET/IEEE International Telecommunication Symposium*, Rio de Janeiro, Brasil (1991).

40. Arbib, C., "Two Polynomial Problems in PLA Folding", in R.H. Moehring (ed.): *Proc. of the 16th International Workshop on Graph Theoretic Concepts*, Lecture Notes in Computer Science, n. 484, Springer-Verlag (1990) 119-129.

41. Agnetis, A., C. Arbib, K.E. Stecke, "Optimal Two-machine Scheduling in a Flexible Flow System", *Proceedings of the 2nd International Conference on CIM*, Troy, NY, May 1990, IEEE Computer Society Press, 47-54.

42. Arbib, C., L. Perugini, "Optimal Part Routing in FMS", in M. Pridham e C. O'Brien (eds.): *Production Research: Approaching the 21st Century*, Taylor & Francis (1989) 544-550.

43. Arbib, C., G. Cioni, "Meta-reasoning and Data Structuring for Improving PROLOG Programming Style", in Ph. Jorrand e V. Sgurev (eds.): *Artificial Intelligence II: Methodology, Systems, Applications*, Elsevier Science Publ. B.V. (1987) 55-61.

44. Arbib, C., "A Polynomial Algorithm for Partitioning Line-graphs, in B. Simeone (ed.): Lecture Notes in Mathematics, Springer-Verlag (Berlin 1986) 198-208.