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SUMMARY

Research and development in the areas of scheduling systems, industrial process re-engineering, discrete optimization, parallel & distributed processing and systems, and computer systems for the analysis, design and solution of industrial problems. Client focused business analysis, strategic planning, business re-engineering and management experience. Persistent team leader with history of achieving goals on schedule.

EDUCATION

- **Ph.D.**, Computer Science, Electrical Engineering and Operations Research, *Columbia University*, NYC, 1980. Thesis in Parallel Processing and Optimization with Applications to Power Scheduling Systems.
- **M.S.**, Electrical Engineering and Computer Science, *Columbia University*, NYC, 1976.
- **B.S.**, Electrical Engineering and Computer Science, *Columbia University*, NYC, 1975.

MAJOR PROFESSIONAL EXPERIENCE

- **University of Patras, Greece, 1990 – present, Professor and Director**, Computer Systems Laboratory (CSL), Department of Electrical & Computer Engineering. Computer systems, combinatorial optimization, scheduling, parallel/distributed systems and application service providing over the Internet.
- **AT&T Bell Laboratories, 1986 – 1990, MTS**, Business Analysis Center and Advanced Decision Support Systems. Computer systems, combinatorial optimization and parallel processing for the solution of scheduling problems.
- **The City College of the City University of New York, NYC, 1984-1986, Associate Professor**, Department of Electrical Engineering.
- **American Electrical Power Service Corporation, NYC, 1977 – 1984, Senior Engineer**, Computer Applications and Operations Research Center.

MAJOR PRIZES/HONORS

- **FIRST PLACE in all tracks of timetabling competition INRC2010 (1st International Nurse Rostering Competition)**, PATAT 2010 International Conference, (<https://www.kuleuven-kortrijk.be/nrpccompetition/competitor-ranking>)
- **SECOND PLACE**, 2nd International Timetabling Competition **ITC2007**, PATAT 2008 International Conference, (<http://www.cs.qub.ac.uk/itc2007/>), <http://www.cs.qub.ac.uk/itc2007/winner/finalorder.htm>.

MAJOR PUBLICATIONS

- *A systematic two phase approach for the nurse rostering problem*, Valouxis C., Gogos C., Goulas G., Alefragis P. and Housos E., European Journal of Operational Research, June 2012, Volume 219, Issue 2, pp. 425-433.
- *An Improved multi-staged algorithmic process for the solution of the examination timetabling problem*, Gogos C., Alefragis P. and Housos E., Annals of Operations Research, 2012, pp. 203-221.
- *Design and Implementation of an efficient integer count sort in CUDA GPUs*, Kolonias V., Voyiatzis A., Goulas G., and Housos E., Concurrency and Computation Practice and Experience, 2011, pp. 2365-2381.
- *Pursuit of Better Results for the Examination Timetabling Problem Using Grid Resources*, Valouxis C., Gogos C., Goulas G., Alefragis P. and Housos E., 2009 IEEE Sym. on Computational Intelligence in Scheduling (CI-Sched), Nashville, USA, 2009.
- *School Timetabling for Quality Student and Teacher Schedules*, Daskalaki S., Birbas T., Housos E., Journal of Scheduling, 2009.
- *A multi-staged algorithmic process for the solution of the examination timetabling problem*, Gogos C., Alefragis P. and Housos E., International Conf. on the Practice and Theory of Automatic Timetabling, PATAT, 2008.
- *A Hidden Markov Models tool for estimating the deterioration level of a power transformer*, Sotiropoulos F., Alefragis P., Housos E., IEEE Symposium on Emerging Technologies and Factory Automation, ETFA, art. no. 4416857, pp. 784-787, 2007
- *Sensor enabled rule based alarm system for the agricultural industry*, Gogos C., Alefragis P., Housos E., IEEE Symposium on Emerging Technologies and Factory Automation, ETFA, art. no. 4416880, pp. 912-915, 2007
- *ERMIS: A helicopter taxi company software support system based on GPS, GSM and Web Services*, Goulas G., Barkayannis V., Gianoulis S., Gogos C., Alefragis P., Foundas P., Valouxis C., Housos E., IEEE Symposium on Emerging Technologies and Factory Automation, ETFA, art. no. 4178280, pp. 1107-1114, 2006
- *Public enterprise water pump scheduling system*, Gogos C., Alefragis P., Housos E., IEEE Symposium on Emerging Technologies and Factory Automation, ETFA 2 2 OF 2 VOL, art. no. 1612761, pp. 841-844, 2005
- *SHEDSP: A Grid-based application service provider of scheduling applications*, G. Goulas, P. Alefragis, E. Housos, Software-Practice and Experience, 2005
- *An Integer Programming Formulation for a Case Study in University Timetabling*, Daskalaki S., Birbas T., Housos E., European Journal of Operational Research, February 2004, Volume 153, Issue 1, pp. 117-135
- *Efficient trip generation with a rule modeling system for crew scheduling problems*, C. Goumopoulos, E. Housos, Journal of Systems and Software, Jan. 2004, Volume 69, pp. 43-56
- *A Column Generation Approach for the Timetabling Problem of Greek High Schools*, Papoutsis K., Valouxis C., and Housos E., Journal of Operational Research Society 2003; 54:230-238
- *SchedSP: Providing GRID-enabled Real-World Scheduling Solutions as Applications Services*, Goulas G., Housos E., Euroweb 2002 Conference, W3C, Oxford, UK, 2002
- *PLEIADES: An Internet Based Parallel/Distributed System*, Koulopoulos D., Papoutsis K., Goulas G., Housos E., Software Practice & Experience Journal, 2002.

- *Constraint Programming Approach for School Timetabling*, Valouxis C., Housos E., Computers & Operations Research Journal, 2002.
- *Combined Bus and Driver Scheduling*, Valouxis C, Housos E., Computers & Operations Research Journal, 29 (2002).
- *Hybrid Optimization Techniques for the Workshift and Rest Assignment of Nursing Personnel*, Valouxis C, Housos E., Artificial Intelligence in Medicine, 20 (2), 2000.
- *Workshift Bus Driver Assignment for the Greek Bus Companies*, Valouxis C, Housos E. Proceedings of the 5th International Conference, Decision Sciences Institute (DSI-99).
- *Crew Pairing Optimization*, Andersson E., Housos E., Kohl N. & Wedelin D., Operations Research in the Airline Industry, Kluwer Academic Publishers, 1998.
- *Parallel Crew Scheduling in PAROS*, Alefragis, P., Goumopoulos C., Housos E., Sanders, P., Takkula, T., and Wedelin, D., Proc. of the 4th Int. Euro-Par Conf., 1998.
- *Parallel Algorithms for Airline Crew Planning on Networks of Workstations*, Goumopoulos C., Alefragis, P., and Housos E., Proc. of the 27th International Conference on Parallel Processing (ICPP'98), 1998.
- *A Generic Legality Checker and Attribute Evaluator for a Distributed Enterprise Environment*, Goumopoulos C., Alefragis P., Thrampoulidis K., Housos E., Proc. of the third IEEE Int. Symposium on Computers and Comm. (ISCC'98), 1998, IEEE CS.
- *High Performance Airline Crew-Pairing Optimization*, Goumopoulos C., Alefragis, P., and Housos E., Proc. of the second European IASTED International Conference on Parallel and Distributed Systems (Euro-PDS'98).
- *High Performance Airline Crew-Pairing Optimization*, Goumopoulos C., Alefragis, P., and Housos E., Proc. of the second European IASTED International Conference on Parallel and Distributed Systems (Euro-PDS'98).
- *Daily Bus and Driver Scheduling*, Valouxis C, Housos E., Proceedings of the Hellenic–European Conference on Computer Mathematics and its Applications (HERCMA '98).
- *Daily Bus and Driver Scheduling*, Valouxis C, Housos E., Proceedings of the Hellenic–European Conference on Computer Mathematics and its Applications (HERCMA '98).
- *Timetabling for Greek High Schools*, Birbas Th., Daskalaki S., Housos E., Journal of the Operational Research Society 48, 1997.
- *Automatic Optimisation of Subproblems in Scheduling Airline Crews*, Housos E., Elmroth T., INTERFACES Journal, Institute for Operations Research and The Management Sciences, 1997.
- *Rule Handling in the Day-to-Day Resource Management Problem: an Object-Oriented Approach*, Thrampoulidis, K., Goumopoulos, C., and Housos, Information and Software Technology Journal, vol. 39, Elsevier Science, 1997.
- *Parallel Crew Scheduling on Workstation Networks using PVM*, Goumopoulos C., Housos E., and Liljenzin, Proc. of the 4th PVM-MPI Conference, Poland, 1997.
- *REDOM: An OO Language to Define and On-line Manipulate Regulations in the Resource (Re)Scheduling Problem*, K. Thrampoulidis, N. Diamantopoulos, E. Housos, Software Practice & Experience Journal, Vol. 27, 1997.

- *Parallel Algorithms for the AT&T KORBX SYSTEM*, Housos E., Liu J. M. & Huang C., AT&T Technical Journal, 1989.
- *Security Assessment and Control System: Corrective Strategies*, Housos E. & Irisarri G., IEEE Trans. on PAS, 1985.
- *Pseudo-Conjugate Directions for the Solution of the Non-linear Optimisation Problem on a Parallel Computer*, Housos E. & Wing O., Journal of Opt.Theory and its Applications, 1984.
- *Real and Reactive Power System Security Dispatch Using a Variable Weights Optimisation Method*, Housos E. & Irisarri G., IEEE Transactions on PAS, May 1983.
- *Parallel Non-linear Optimisation with Applications to Power Systems*, Housos E. & Wing O., IEEE Trans. on PAS, 1982.
- *A Sparse Variable Metric Optimisation Method Applied to the Solution of Power System Problems*, Housos E., & Irisarri G., IEEE Transactions on PAS, 1982.
- *Real Time Results with on-line Network Equivalents for Control Center Applications*, Housos E. & Irisarri G., IEEE Transactions on PAS, 1981.
- *Sparsity Considerations in Power System Equivalents*, Housos E. & Irisarri G., Proceedings of the IEEE, August 1980.
- *Parallel Non-linear Minimisation Methods with Applications to Power System Problems*, Housos E., Wing O., Electric Power Problems, SIAM 1980.
- *Steady State Network Equivalents for Power System Planning Applications*, Housos E., Irisarri G., Porter R. & Sasson A., IEEE Transactions on PAS, 1980.
- *Parallel Non-linear Minimisation by Conjugate Directions*, Housos E., Wing O., Proceedings of the International Conference on Parallel Processing, IEEE 1980.
- *Solution of the Load Flow Problem by a Parallel Optimisation Method*, Housos E., Wing O., IEEE PICA Conference, 1979.

MAJOR RESEARCH & DEVELOPMENT PROJECTS

- ESPRIT Project: DAYSYS, 1994 – 1996. Computer system for crew and flight monitoring and crew re-scheduling whenever unexpected delays and/or other problems occur. Design and development of a special purpose programming language for the modelling of the operating rules of an airline company. In cooperation with Lufthansa German Airlines, Sema Group (France) and Cosytec (France).
- ESPRIT Project: PAROS, 1997 – 1999. Parallel/distributed computer environment for the solution of the crew scheduling problem of a typical airline company. In cooperation with Lufthansa German Airlines, Carmen Systems (Sweden) and Chalmers University (Sweden).
- STRIDE/LIGHT, 1992-1994. Computer system for process monitoring and control of the manufacturing industry. In cooperation with Applied Electronics Laboratory of Electrical & Computer Engineering Department of the University of Patras, Amstel S. A., Nomikos S.A. and Couros S. A.
- SYN/SHIFTS, 1998-2001. Design and development of a novel computer system for scheduling busses and drivers for the KTEL bus companies of Greece. In cooperation with IME S. A..

- PENED/PLEIADA, 1999-2001, Internet based Parallel/Distributed system for the solution of scheduling problems. In cooperation with the Department of Informatics of the University of Athens and the Computer Technology Institute (CTI).
- PAVE-NE/AIRLIFT, 2002 – 2004, Information and decision support system. In cooperation with AIRLIFT, A.E. and the Industrial Systems Institute (ISI).
- IST : EGEE I & II & III, EGI (Enabling Grids For E-Science), 2004 – 2014
- GSRT/ Western Greece: «Μεθοδικά», 2005 – 2007, Collaboration Issues and Organization for Software Development
- PRACE I & PRACE II, 2010-2013