Gregory Karagiorgos
(Curriculum Vitae)

- **AFFILIATION**

    Department of Technology of informatics and Telecommunications

    A.T.E.I. Kalamatas/Branch of Sparta

    Area of Kladas, 23100 Sparta

    E-mail: greg@teikal.gr. greg@di.uoa.gr, Phone : 27310 82227, 693 93 27 851

- **STUDIES**

    PhD,
    Department of Informatics and Telecommunications,
    Section of Theoretical Informatics,
    National and Kapodistrian University of Athens, (NKUA), 2002.
    PhD Thesis : *Distributed diffusion algorithms for the load balancing problem*

    Maitrise Informatique,
    Universite de Paris VIII, France, 1986. (B.Sc.)
    Maitrise Thesis : *Algorithmes parallele pour le tretaiment d'images*

- **ACADEMIC POSITIONS**

    – March 2010-today: Assistant professor, Department of Technology of informatics and Telecommunications, A.T.E.I. Kalamatas/Branch of Sparta

    – 2002-2010 Lecturer/Assistant/Associate professor, (under the provision of the 407/80 presidential degree)

      ⋄ Department of Informatics and Telecommunications, NKUA.
      ⋄ Department of Mathematics, NKUA.

$\diamond$ Department of Science and Technology of Telecommunications,University of Peloponnese.

$\diamond$ Department of Computer Science and Biomedical Informatics, University of Central Creece.

– 1994-2002. In Association with the Laboratory of Technological Educational Institute of Piraeus Department of Electronic Computer Systems.
(Data communications, Operating systems, Development of Operating systems).

- **ADMINISTRATIVE POSITIONS**

  – 2010-2012: Head of the Department of Technology of informatics and Telecommunications, A.T.E.I. Kalamatas/Branch of Sparta

- **TEACHING LESSONS**

  – Algorithms and Complexity, Theory of Computation, Data structures, Applied Cryptography, Graph Theory, Algorithmic operations research, Algorithmic game theory, Nonlinear Optimization, Informatic I, Informatic II, Numerical Linear Algebra.

- **RESEARCH INTERESTS**

  Theoretical Computer Science and include Design and analysis of algorithms, Computational Complexity theory, Combinatorial optimization, Parallel and Distributed Computing, Load Balancing and Game Theory. Spectral Graph Theory and its applications.

- **PROFESSIONAL ACTIVITIES**

  – 2003-2010. Participation in research project
  (ANA- IST, PYTHAGORAS-EPEAEK II,, BROADWAY-IST, FLAGS-IST).

  – 1999-2001. Participation in research project
  NHREAS, Parallelization of a Weather Prediction Model, National project, EPET-II, Athens, Greece.

  – 1990-1993. Design and development of Software, Kapa-TEL (2 years), Intrasoft (6 months), and Telematique (2 years), Athens, Greece.

- 1988-1990. Participation in research project
  ANNIE, Application of Neural Networks for Industry In Europe
  ESPRIT II, EU, Greece.

- 1986-1988. Design and development of Software as multi-users unix
  (TELNOS), data bases (UNIFY), Videotex servers (IPPOLIS, MC2),
  Paris, France.

- **PUBLICATIONS**

- **JOURNAL**

[1] G. Karagiorgos, D. Poulakis. "Efficient Algorithms for the Basis of Finite Abelian Groups", *Discrete Mathematics, Algorithms and Applications*, Vol. 3, No 4, pp. 537 - 552, 2011.

[2] G. Karagiorgos and N. M. Missirlis, "Convergence of the diffusion method for weighted torus graph using Fourier analysis", *Theoretical Computer Science*, Vol. 401, Issues 1-3, pp. 1-16, 2008.

[3] G. Karagiorgos, and N. M. Missirlis, "Load balancing for the numerical solution of the Navier-Stokes equations", *Scalable Computing : Practice and Experience*, Vol. 9, No 1, pp. 61-68, 2008.

[4] G. Karagiorgos and N. M. Missirlis, "Accelerated diffusion algorithms for dynamic load balancing", *Information Processing Letters*, 84, pp. 61-67, 2002.

[5] G. Karagiorgos and N. M. Missirlis, "Fourier analysis for solving the load balancing problem", *Foundations of Computing and Decision Sciences*, Vol. 27, No 3, 2002.

[6] G. Karagiorgos and N. M. Missirlis, "Iterative algorithms for distributed load balancing", *Studia Informatica Universalis*, Vol. 2, No.1, pp. 37-54, 2001.

[7] V. Zissimopoulos and G. Karagiorgos, "Performance Study of a Neural Network Method with Set Partitioning", *Chaos of Solitons and Fractals*, Vol. 2, No 4, pp. 421-435, 1992.

- **INTERNATIONAL CONFERENCES**

[8] J. Alexandris, G. Karagiorgos. "Enhanced Random Walk with Choice: An empirical study", *In Proceedings of the 2012 International Conference of Wireless Networks, World Congress on Engineering (WCE 2012)*.
S. I. Ao, Len Gelman, David WL Hukins, Andrew Hunter, A.M. Korsunsky (Eds.), LNECS, WCE 2012, Vol. II, pp. 1263-1268, London, UK, 4-6 July 2012.

[9] G. Karagiorgos, D. Poulakis. "Linear Time Algorithms for the Basis of Abelian Groups", *In Proceedings of the 17th International Computing and Combinatorics Conference* Dallas Texas U.S.A. Bin Fu, Ding-Zhu Du (Eds.), COCOON 2011, LNCS, Vol. 6842, pp. 456-466, Springer 2011.

[10] G. Karagiorgos, D. Poulakis "A algorithm for computing a basis of a finite abelian group", *In Proceedings of the 4th International Conference on Algebraic Informatics* Linz, Austria, Franz Winkler (Ed.), CAI 2011, LNCS, Vol. 6742, pp. 174-184, Springer 2011.

[11] A. Giannakos, G. Karagiorgos and I. Stavrakakis, "A message-optimal sink mobility model for Wireless Sensor Networks", ICN 2009, *The Eighth Inernational Conference on Networks*, March 1-6, 2009-Cancun Mexico, pp. 287-291, IEEE Computer Society.

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[12] G. Karagiorgos, P. Katsafados, A. Kontarinis, N. M. Missirlis and F. Tzaferis "Load balancing for the numerical solution of the Navier-Stokes equations" Extended abstract, PARA06, *Workshop on state-of-art in scientific amd parallel computing*, Sweden June 18-21 2006, pp. 764-773 LNCS 4699 Springer 2007.

[13] G. Karagiorgos, N. M. Missirlis and Tzaferis, "Fast diffusion load balancing algorithms on torus graphs", Euro-Par 2006, *Parallel Processing, 12th International Euro-par conference, pp. 222-231*, Dresden, Germany August 28 - September 1, 2006. Proceedings LNCS 4128 Springer 2006.

[14] G. Karagiorgos and N. Missirlis "Convergence analysis of the extrapolated diffusion method for weighted torus graphs" *17th IMACS World Congress: Scientific Computation, Applied Mathematics and Simulation, Paris, France, Jully 11-15, 2005.*

[15] G. Karagiorgos, N. M. Missirlis and F. Tzaferis "The generalized diffusion method for the load balancing problem". In G.R Joubert, W.E Nagel, F.J. Peters and W. V. Walter (Editors) *Parallel Computing: Software Technology, Algorithms, Architectures and Applications, Proceeding of the 10th ParCo Conference pp. 225-232*, North Holland/Elsevier, Dresden 2004.

[16] G. Karagiorgos, G. Kollias, N. Missirlis and E. Tsigaridas "On the optimum value of τ for a variant of the Diffusion Method". In K. J. Bathe (eds) *Second MIT Conference on Computational Fluid and Solid Mechanics, Vol. 2 pp. 2019-2022*, Elsevier, pp. 17-29, MIT, Cambridge, Massachusetts, USA, June 2003.

[17] G. Karagiorgos and N. M. Missirlis, "The generalized diffusion method for the load balancing problem", Extended abstract, *In 8th International Conference, on Applications of Computer Algebra,* A. G. Akritas, I. S. Kotsireas (Eds.) pp. 133-135, ACA2002 Volos, Greece, 25-28 June 2002.

[18] G. Karagiorgos and N. M. Missirlis, "The average diffusion method for the load balancing problem", *The 2002 International Conference on Computational Science*, P.M.A. Sloot et al. Eds.): LNCS 2329, pp. 623-632, April, 2002.

[19] G. Karagiorgos and N. M. Missirlis, "Iterative Load Balancing Schemes for Air Pollution Models", *In S. M. Margenov and J. Wasniewski and P. Yalamov, eds, Third International Conference, Large-Scale Scientific Computing, LSSC 2001, Sozopol, Bulgaria*, LNCS 2179, pp. 291-298, June 2001.

[20] G. Karagiorgos and N. M. Missirlis, "Iterative algorithms for distributed load balancing", *4th International Conference On Principles Of DIstributed Systems* (OPODIS 2000), pp. 37-54, December 2000.

[21] G. Karagiorgos, N. M. Missirlis and F. Tzaferis, "Dynamic load balancing for Atmospheric models", *In Proc. of the 9th ECMWF Workshop on the Use oh High Performance Computing in Meteorology, World Scientific*, pp. 214-227, November 2000.

- **NATIONAL CONFERENCES**

[22] V. Zissimopoulos and G. Karagiorgos, "A Neural Network Approach for Solving Set Partitioning Problems", *3rd Symposium of Computer Sciences, Athens, Greece,* pp. 352-368, June 1991.

- **RESEARCH REPORTS FOR THE PROJECT ANNIE (ESPRIT), PRESENTED TO THE PROJECT EVALUATORS**

[23] V. Zissimopoulos and G. Karagiorgos, "The Counterpropagation Neural Network model", **Chapter 6 in "A short Review of Neural Network Architectures and their Applications",**

Editor Harwell Laboratory, United Kingdom Atomic Energy Authority, Oxford shire, OX11 ORA, ANNIE, ESPRIT II, May 1989,
presented to the project ANNIE evaluators, Karlsruhe (IBP Pietzsch GmbH), Germany, Febr. 1988.

[24] V. Zissimopoulos and G. Karagiorgos, "The Airline Crew Scheduling Problem: A Neural Network Approach", **Chapter 7 in ANN90R04, ANNIE-ESPRIT II,**
presented to the project ANNIE evaluators, Frankfort (KPMG Peat Marwick Treuhand GmbH), Germany, May 1990.

[25] V. Zissimopoulos and G. Karagiorgos, "The performance of a Neural Network Model in the resolution of the Set Partitioning Problem arising in the Airline Crew Scheduling Application", *ANN90R011, ANNIE, ESPRIT II,*
presented to the project ANNIE evaluators, London (Harwall Laboratory, AEA Technology), United Kingdom, October, 1990.

[26] N. Ioannidis, G. Karagiorgos and V. Zissimopoulos, "Artificial Neural Networks Software Simulators", *ANN89R, ANNIE-ESPRIT II,*
presented to the project ANNIE evaluators, Senlis (CETIM), France, October, 1989.