CURRICULUM VITAE

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Division of Signals, Control and Robotics,
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Born : 26 February 1951, Athens

Education :

1973 : Diploma of Electrical and Mechanical Engineering
(option : Electrical Engineering),
National Technical University of Athens

1974 : M.Sc. in Control Systems,
D.I.C. (Diploma of Imperial College)
Department of Computing and Control,
Imperial College of Science and Technology, London, UK.

1978 : Ph.D. in Non-linear Optimization Algorithms
Department of Computing and Control,
Imperial College of Science and Technology, London, UK.

Scholarship from Bodossaki Foundation during postgraduate studies.

Languages : Greek, English.

Employment :

1980-1983 : Postdoctoral Research Assistant at the Dept. of Electrical Eng., Imperial College, London, UK.
Research work on tolerance design and yield optimization of electrical circuits.

1983-1984 : Research Scientist at the Hellenic Navy Bureau of Research and Development (GETEN).
Work on a real-time computer controlled system.

1985-1991 : Assistant Professor at Electroscience Division,
Department of Electrical Engineering,
National Technical University of Athens.

1991-1998 : Associate Professor at Electroscience Division,
Department of Electrical and Computer Engineering,

National Technical University of Athens.
1998-2000 : Professor at Electroscience Division,
Department of Electrical and Computer Engineering,
National Technical University of Athens.
2000-today : Professor at Division of Signals, Control and Robotics,
School of Electrical and Computer Engineering,
National Technical University of Athens.

Expertise and Research Interests :

- Non-linear optimization theory and algorithm development
- Recurrent neural networks for optimization problems
- Neural network training algorithms
- Study of stability and loadability limits of electrical power systems
- Computer-aided analysis and design of analogue circuits
- Yield maximization and tolerance design of circuits
- Noise optimization for integrated analogue circuits
- Biomedical applications of optimization (e.g. Hyperthermia)

Selected Publications :

M. Barbarosou and N.G. Maratos, "Training of Perceptron Neural Network using Piecewise-linear Activation Function", 5th International Conference on Communications, Electromagnetics amd Medical Applications, CEMA'10, Athens, pp. 85-88, 2010.

G. Altanis and N.G. Maratos "Avoiding Fold Bifurcations With the Help of New Proximity Indices", 17th Mediterranean Conference on Control and Automation, MED'09, Thessaloniki, June 2009.

M. Barbarosou and N.G. Maratos, "A Nonfeasible Gradient Projection Recurrent Neural Network for Equality-Constrained Optimization Problems", IEEE Trans. on Neural Networks, Vol. 19, no. 10, pp. 1665-1677, 2008,
http://dx.doi.org/10.1109/TNN.2008.2000993

M.E. Karystianos, N.G. Maratos and C.D. Vournas, "Maximizing Power-System Loadability in the Presence of Multiple Binding Complementarity Constraints", IEEE Trans. on Circuits and Systems I: Regular Papers, Vol. 54, no. 8, pp.1775-1787, 2007, http://dx.doi.org/10.1109/TCSI.2007.902529

P.T. Krasopoulos and N.G. Maratos, "A Neural Network for Convex Optimization", Proc. IEEE International Symposium on Circuits and Systems, ISCAS 2006, Kos, pp. 747-750, 2006, ISBN: 0-7803-9390-2 art. #1692693

C.D. Vournas, N. Sakellaridis, M. Karystianos and N.G. Maratos, "Ínvestigating Power System Stability Limits", Proc. IEEE International Symposium on Circuits and Systems, ISCAS 2006, Kos, pp. 726-729, 2006, ISBN: 0-7803-9390-2 art. #1692688

M. Barbarosou and N.G. Maratos, “Non-feasible Gradient Projection Recurrent Neural Network for Equality Constrained Optimization”, Proc. IEEE International Conference on Neural Networks, ICNN 2004, Budapest, Vol. 3, pp. 2251-2256, 2004.

V.M. Mladenov, N.G. Maratos, A.C. Tsakoumis, T.A. Tashev and N.E. Mastorakis, “On Solving Nonlinear Programming Problems via Neural Networks”, Neural Network World, Vol. 11, No. 3, pp. 293-304, 2001.

C.D. Vournas, M. Karystianos and N.G. Maratos, “Exploring Power System Loadability Surface with Optimization Methods”, Bulk Power System Dynamics and Control V, Onomichi, Japan, August 2001.

C.D. Vournas, M. Karystianos and N.G. Maratos, “Bifurcation Points and Loadability Limits as Solutions of Constrained Optimization Problems”, Proc. IEEE Power Eng. Society Transmisson and Distribution Conference, Vol. 3, pp. 1883-1888, 2000.

N.G. Maratos and C.D. Vournas, “Relationships between Static Bifurcation and Optimality Conditions”, Proc. IEEE International Symposium on Circuits and Systems, ISCAS 2000, Geneva, Vol. 2, pp. 477-480, May 2000.

K.S. Nikita, N.G. Maratos and N.K. Uzunoglu, “Optimization of the Deposited Power Distribution Inside a Layered Lossy Medium Irradiated by a Coupled System of Concentrically Placed Waveguide Applicators”, IEEE Trans. on Biomedical Eng., Vol. 45, pp. 909-920, July 1998.

K.S. Nikita, N.K. Uzunoglu and N.G. Maratos, “Coupled Radiation Between Concentrically Placed Waveguide Applicators: Optimization of the Deposited Power Distribution Inside a Lossy Medium”, Proc. 1995 IEEE MTT-S, 1995 International Microwave Symposium, pp. 311-314, Orlando, Florida, 1995.

C.D. Vournas, N. Maratos and B.C. Papadias, “Power System Stabiliser Co-ordination using a Parameter Optimisation Method”, IEE Control’94 Conference, pp. 403-408, Coventry, UK, 1994.

N.G. Maratos and G.T. Ioannidis, “A Method for Dynamic Range Maximization for a Class of Integrated Active-RC Filters”, Proc. 1994 IEEE International Symposium on Circuits and Systems, ISCAS’94, Vol. 5, pp. 763-766, London, 1994.

K.S. Nikita, N.G. Maratos and N.K. Uzunoglu, "Optimal Steady-State Temperature Distribution for a Phased Array Hyperthermia System", IEEE Trans. on Biomedical Eng., Vol. 40, pp. 1299-1306, Nov. 1993.

T.G. Koussiouris and N. Maratos, "Robust Stabilisation while Decoupling by State Feedback and a Constant Singular Input Transformation",Proc. of ECC'93, Groningen, Netherlands, 1993.

L. Toth, V. Gopinathan, N.G. Maratos and Y.P. Tsividis, "Bounds on Noise in Integrated Active-RC and MOSFET-C Filters", IEEE Proc. of ISCAS'93, Chicago, 1993.

K.S. Nikita, N. Maratos and N.K. Uzunoglu, "Optimum Excitation of Phases and Amplitudes in a Phased Array Hyperthermia System", International Journal of Hyperthermia, Vol. 8, pp. 515-528, 1992.

N.K. Uzunoglu, K.S. Nikita, N. Maratos, “Four Element Computer Controlled 432 Mhz Phased Array Hyperthermia System”, Advances in Experimental Medicine and Biology, Vol. 267, pp. 311-313, 1990.

N.G. Maratos, "Algorithm for Design Centering Based on use of Sensitivity Information", IEE Proc., Vol. 135, Pt. G, pp. 11-18, 1988.

N. Maratos, "Tolerance design via cost minimization", IEE Proc., Vol. 129, pt. G, pp. 150-159, 1982.

A. Ilumoka, N. Maratos and R. Spence, "Variability reduction: Statistically based algorithms for reduction of performance variability of electrical circuits", IEE Proc., Vol. 129, Pt. G, pp. 169-180, 1982.

A. Ilumoka, N. Maratos and R. Spence, “Statistically Based Algorithms for the Reduction of Circuit Performance Variability”, Proc. IEEE International Symposium on Circuits and Systems, ISCAS’81,Chicago,Vol. 1, pp.149-151, 1981.

R. Spence, A. Ilumoka, N. Maratos and L. Gefferth, “Statistical Exploration Approach to Design Centering”, Journal de Physique, Paris, Vol. 1, pp. 582-585, 1980.

N. Maratos and D.Q. Mayne, "An algorithm for optimal control problems with terminal equality constraints", IEEE Conf. Control and Optimization, 1979.

D.Q. Mayne and N. Maratos, "A first order, exact penalty function algorithm for equality constrained optimization problems", Mathematical Programming, Vol. 16, pp. 303-324, 1979.