

GEORGE S. TOMBRAS B.Sc., M.Sc., Ph.D.

CURRICULUM VITAE

JULY 2011

IN BRIEF

George S. Tombras received the B.Sc. degree in Physics from Aristotelian University of Thessaloniki, Greece, the M.Sc. degree in Electronics from University of Southampton, UK, and the Ph.D. degree from Aristotelian University of Thessaloniki, in 1979, 1981, and 1988 respectively.

From 1981 to 1989 he was Teaching and Research Assistant and, from 1989 to 1991, Lecturer at the Laboratory of Electronics, Physics Dept., Aristotelian University of Thessaloniki. During 1985-86, he served his military service as a Research Assistant at the Research Center for National Defense. From 1990 to 1991 he was on sabbatical leave at the Institute of Informatics and Telecommunications of the National Center for Science Research "Demokritos," Athens, where he was involved in various European Union R&D projects related to Mobile Communication Systems and participated in two technical committees of the European Technical Standards Institute, (ETSI).

Since 1991, he has been with the Laboratory of Electronic Physics, Faculty of Physics, University of Athens, where currently is Professor of Electronic Physics, Director of the Laboratory of Electronic Physics, and Vice Chairman of the Faculty of Physics, Head of Postgraduate Studies.

His research interests include Wireless and Mobile Communications, Free Space Optical Communications, Analogue and Digital Circuits and Systems, Chaotic operation in Electronic and Telecommunications Systems, as well as Instrumentation, Measurements, and Audio Engineering. Professor Tombras is the author of the textbook "Introduction to Electronics" (in Greek) and has authored or co-authored more than 120 journals and conference refereed papers and many technical reports.

A. PERSONAL DATA

Name : George S. Tombras
Date of Birth : September 7, 1956
Place of Birth : Athens, Greece
Nationality : Hellenic
Business Address : Laboratory of Electronic Physics,
Department of Electronics, Computers, Telecommunications, and Control
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Current position : Professor of Electronic Physics
Memberships : Senior Member IEEE, Member AES, Hellenic Physicists Association

B. EDUCATION

- B.Sc. in Physics, Dept of Physics, Aristotelian University of Thessaloniki, Greece, 1979
- M.Sc. in Electronics, University of Southampton, United Kingdom, 1981
- Ph.D., Dept of Physics, Aristotelian University of Thessaloniki, Greece, 1988

C. ACADEMIC APPOINTMENTS

- 1981-1989 : **Teaching and Research Assistant**, Laboratory of Electronics, Dept of Physics, Aristotelian University of Thessaloniki, Greece
[1985-1986 : Military Service]
- 1989-1991 : **Lecturer**, Laboratory of Electronics, Dept of Physics, Aristotelian University of Thessaloniki, Greece
- 1990-1991 : **Postdoctoral Research Fellow**, Computer and Telecommunications Institute, N.C.S.R "Demokritos", Athens, Greece (on sabbatical leave)
- 1991-2004 : **Assistant Professor**, Laboratory of Electronic Physics, Applied Physics Division, Dept of Physics, National and Kapodistrian University of Athens, Greece
- 2004-2007 : **Associate Professor**, Laboratory of Electronic Physics, Applied Physics Division, Dept of Physics, National and Kapodistrian University of Athens, Greece
- 2007 - : **Associate Professor and Director of the Dept of Electronics, Computers, Telecommunications and Control**, Faculty of Physics, National and Kapodistrian University of Athens, Greece
- 2010 - : **Invited Professor** of Electronics (Summer Quarter), Department of Physics, University of Washington, Seattle, USA.
- 2011 - : **Professor and Director of the Laboratory of Electronic Physics**, Dept of Electronics, Computers, Telecommunications and Control, Faculty of Physics, National and Kapodistrian University of Athens, Greece

D. TEACHING EXPERIENCE

University of Thessaloniki

- * 1981-1984, 1986-1988 : Laboratory Course in Electronics (Undergraduate)
- * 1981-1984, 1986-1988 : Laboratory Course in Electronics (Graduate)
- * 1981-1984 : Special topics in Electronics (Undergraduate)
- * 1989-1991 : Electronic Circuits (Graduate)

University of Athens

- * 1991-present : Electronics I (Undergraduate)
- * 1991-1997 : Electronics II (Undergraduate)
- * 1991-1993 : Laboratory Course in Electronics (Undergraduate)
- * 1998-present : Laboratory Course in Basic Electronics (Undergraduate)
- * 1991-1993 : Laboratory Course in Telecommunications (Undergraduate)
- * 1991-1995 : Special Topics in Communications (Graduate)
- * 1991-present : Mobile Communications (Graduate)

Theses Supervision

- * Major Advisor of 12 Doctoral Theses (8 completed) and member in 10 Supervising Committees for Doctoral Theses
- * Major Advisor of more than 350 Undergraduate and 45 Graduate theses

Tutorials/Seminars (after invitation of the Institute of Telecommunications and Informatics of NCSR "Demokritos")

- * Spring 1990 : Mobile Communications
- * Summer 1995-1997 : Introduction in Mobile Communications
- * Summer 1998-2000 : Mobile Communication Systems

E. PROFESSIONAL AND SCIENTIFIC ACTIVITIES

- 1985-86 : Research Assistant at the Research Center for the National Defense (Military Service)
- 1987 : Member of the Committee for the Development of Regional Radio Services in Greece
- 1990-93 : Participation in EEC co-funded R&D programs NCSR "Demokritos" : CTS-3/ERMES (90/45067), CTS-3/DECT (90/45073), Validation of ERMES Standards parts 4,5
- 1991-92 : Associate member at Paging Systems Technical Committee of the European Standards Telecommunications Institute (ETSI- PS/TC)
- 1992 - 07 : Member of the Coordinating Committee of the M.Sc. Courses in Electronics and Electronic Automation of the Faculties of Physics and Informatics & Telecommunications, National and Kapodistrian University of Athens, Greece
- 2007- : Director of the Dept of Electronics, Computers, Telecommunications, and Control, Faculty of Physics, National and Kapodistrian University of Athens
- 2007 - : Chairman of the Coordinating Committee of the M.Sc. courses in Electronics and Electronic Automation of the Faculties of Physics and Informatics and Telecommunications, National and Kapodistrian University of Athens
- 2008 - : **Vice-Chairman of the Faculty of Physics**, National and Kapodistrian University of Athens, Greece
- 2008 - : Head of Postgraduate Programs in Basic and Applied Physics of Faculty of Physics, National and Kapodistrian University of Athens, Greece
- 2011 - : **Director of the Laboratory of Electronic Physics**, Dept of Electronics, Computers, Telecommunications and Control, Faculty of Physics, National and Kapodistrian University of Athens, Greece

- **Editorial Board Member for the:**
 - *Journal of The Franklin Institute*, Elsevier Ltd
 - *International Journal of Electronics*, Taylor & Fransis Ltd
 - *EURASIP Journal on Advances in Signal Processing*, Hindawi Publishing Ltd
 - *EURASIP Journal on Wireless Communications And Networking*, Hindawi Publishing Ltd
 - *Journal of Electrical and Computer Engineering*, Hindawi Publishing Ltd
 - *Journal of Communications (JCM)*, Academy Publisher
 - *Journal of Networks (JNW)*, Academy Publisher
 - *Contemporary Engineering Sciences*, Hikari Ltd

- **Member of many International Conference Technical Program Committees**
 - **ICT-2002** : 9th International Conference on Telecommunications, June 2002, Beijing, China.
 - **ICT-2003** : 10th International Conference on Telecommunications, February 2003, Tahiti, French Polynesia.
 - **ICT-2004** : 11th International Conference on Telecommunications, August 2004, Fortaleza, Ceara, Brazil.
 - **ICT-2005** : 12th International Conference on Telecommunications, August 2005, Cape Town, South Africa.
 - **IDAACS 2005** : IEEE 3rd International Workshop on Intelligent Data Acquisition and Advanced Computing Systems: Technology and Applications, September 2005, Sofia, Bulgaria.
 - **ICETE 2005** : 2nd International Conference on e-Business and Telecommunication Networks, October 2005, Reading, UK.
 - **AICT 2006** : Advanced International Conference on Telecommunications, February, 2006, Guadeloupe, French Caribbean.

- **ICT 2006** : 13th International Conference on Telecommunications, May 2006, Funchal, Madeira island, Portugal.
- **WINSYS 2006** : International Conference on Wireless Information Networks and Systems, August 2006, Setúbal, Portugal
- **IADIS 2006** : International Conference on e-Commerce, 9 to 11 December 2006, Barcelona, Spain.
- **WINSYS 2007**, International Conference on Wireless Information Networks and Systems, July, 2007, Barcelona, Spain
- **IADIS MCCSIS 2007** : Wireless Applications and Computing Conference, July 2007, Lisbon, Portugal.
- **AICT 2007** : The 3rd Advanced International Conference on Telecommunications, May 2007, Morne, Mauritius.
- **AICT 2008** : The 4th Advanced International Conference on Telecommunications, June 2008, Athens, Greece.
- **MIC-CCA 2009** (Mosharaka International Conference on Communications, Computers, and Applications)
- **MIC-CNIT 2009** (Mosharaka International Conference on Communications, Networking and Information Technology).
- **IEEE ICC 2010** – Wireless Communications Symposium.

- **Reviewer for the :**
 - IEEE Journal on Selected Areas in Communications
 - IEEE Transactions on Communications
 - IEEE Transactions on Wireless Communications
 - IEEE Transactions on Vehicular Technology
 - IEEE Communication Letters
 - IEEE Signal Processing Letters
 - IEEE Transactions on Information Theory
 - IEEE Photonics Technology Letters
 - IEEE Transactions on Circuits and Systems – I
 - IEEE Transactions on Circuits and Systems –II
 - IET Signal Processing
 - European Transactions on Telecommunications
 - Journal of Communications and Networks
 - Journal of the Franklin Institute
 - Wireless Communications and Mobile Computing
 - EURASIP Journal on Wireless Communications and Networking

- **Awards:**
 - **Student’s paper award** για την εργασία με τίτλο “Average Capacity of Rician fading Channels with diversity”, F.Lazarakis, G.S.Tombras and K.Dangakis, presented in the *Fourth International Symposium on Personal, Indoor and Mobile Radio Communications, (PIMRC’93)*, September 1993, Yokohama, Japan.
 - **Best PhD Dissertation Award of Ericsson Hellas** for the PHD Thesis of Dr N. Sagias (supervisor: Prof. Dr. G.S.Tombras), Athens, June 2005 (*Ericsson Award of excellence in Telecommunications*)

F. PUBLICATIONS

BOOKS

1. “Electronics Laboratory exercises”, C.A.Karybakas, C.A.Kosmatopoulos, Th.Laopoulos, G.S.Tombras, 1984, University of Thessaloniki Press, (in Greek).
2. “Introduction in Electronics”, G.S.Tombras, Diavlos Publ., Athens (in Greek) [1st Ed. 1999, 602 p., 2nd Ed. 2006, 684 p.].

CHAPTERS IN INTERNATIONAL BOOKS

1. “*Simple Chaotic Electronic Circuits*”, M.P.Hanias and G.S.Tombras, **INVITED book chapter**, **Book Title: “Chaos Synchronization and Cryptography for secure communications: Applications for encryption”**, Editor: S.Banerjee, IGI Global, USA, 2010.
2. “*An Overview of the Physical Insight and the various Performance Metrics of Fading Channels in Wireless Communication Systems*”, K.P.Peppas, H.E.Nistazakis, and G.S.Tombras, **INVITED book chapter**, **Book Title: “Advanced Trends in Wireless Communication”**, Editor: Mutamed Khatib, ISBN 978-953-307-183-1, Intech Publishers, (<http://www.intechweb.org>), February 2011.
3. “*Optoelectronic Chaotic Circuits*”, M.P.Hanias, H.E.Nistazakis, and G.S.Tombras, **INVITED book chapter**, **Book Title: “Optoelectronic Devices and Properties”**, Editor: Oleg Sergiyenko, ISBN 978-953-307-204-3, Intech Publishers, (<http://www.intechweb.org>), April 2011.
4. “*On the Reliability and Performance of FSO and Hybrid FSO Communication Systems over Turbulent Channels*”, H.E.Nistazakis, A.Katsis, and G.S.Tombras, **INVITED book chapter**, **Book Title: “Turbulence: Theory, Types and Simulation”**, **Series “Physics Research and Technology”**, Editor: Russell J. Marcuso, **Series “Physics Research and Technology”**, Editor: Russell J. Marcuso, ISBN: 978-1-61761-735-5, Nova Publishers, (<https://www.novapublishers.com>), in press

DISSERTATIONS

1. “An optimum method for timing the foetal heartbeat”, G.S.Tombras, M.Sc. Dissertation, University of Southampton, U.K., 1981.
2. “A study of methods to improve simple and adaptive delta modulation systems performance”, G.S.Tombras, Ph.D. Thesis (in Greek), Aristotelian University of Thessaloniki, Thessaloniki, Greece, 1988.

REFEREED PAPERS IN SCIENTIFIC JOURNALS

1. G.S.Tombras and C.A.Karybakas, “Delayed encoding delta-modulation system with optimum performance”, *International Journal of Electronics*, 1985, vol. 59, no. 3, pp. 343-354.
2. G.S.Tombras and C.A.Karybakas, “Running average error reduces overload noise in delayed delta-modulation systems”, *International Journal of Electronics*, 1988, vol. 65, no. 6, pp. 1105-1115.
3. G.S.Tombras and C.A.Karybakas, “New adaptation algorithm for a two-digit Adaptive Delta Modulation System”, *International Journal of Electronics*, 1990, vol. 68, no. 3, pp. 343-349.

4. G.S.Tombras, D.Danelis, and C.A.Karybakas, "Implementation of a two-digit adaptive delta modulator", *International Journal of Electronics*, 1990, vol. 69, no. 6, pp. 767-776.
5. G.S.Tombras, "A line coding format for the output of a two-digit adaptive delta modulation system", *International Journal of Electronics*, 1992, vol. 73, no. 2, pp. 263-270.
6. G.S.Tombras, "1-bit delayed encoding improves continuously variable delta modulator performance", *International Journal of Electronics*, 1992, vol. 73, no. 3, pp. 549-554.
7. S.Siskos and G.S.Tombras, "An externally triggered CMOS triangular pulse generator", *International Journal of Electronics*, 1992, vol. 73, no. 3, pp. 615-620.
8. F.Lazarakis, G.S.Tombras and K.Dangakis, "Average channel capacity in a mobile radio environment with Rician statistics", *IEICE Transactions on Communications, Special issue on Personal, Indoor and Mobile Radio Communications*, 1994, vol. E77-B, no. 7, pp. 971-977.
9. D.J.Frantzeskakis, K.Hizanidis, G.S.Tombras, and I.Belia, "Nonlinear Dynamics of Femtosecond Optical Solitary Wave Propagation at the Zero Dispersion Point", *IEEE Journal of Quantum Electronics*, vol. 31, no. 1, January 1995, pp. 183-189.
10. F.Lazarakis, A.Alexandridis, K.Dangakis, G.S.Tombras, and P.Kostarakis, "Evaluation of a terrain-based point-to-point propagation model in the 900 MHz band", *International Journal of Communications Systems*, Wiley, 1997, vol. 10, no. 2, pp. 65-71.
11. P.Varzakas and G.S.Tombras, "Comparative Estimate of User Capacity for FDMA and Direct-Sequence CDMA in Mobile Radio", *International Journal of Electronics*, 1997, vol. 83, no. 1, pp. 133-144.
12. P.Varzakas and G.S.Tombras, "Spectral Efficiency of Direct-Sequence Code Division Multiple Access in Cellular Mobile Radio", *International Journal of Communications Systems*, Wiley, 1997, vol. 10, no. 5, pp. 247-252.
13. C.A.Karybakas and G.S.Tombras, "Description of a Differential Pulse-Frequency Modulator", *Analog Integrated Circuits and Signal Processing*, Kluwer Academic Publishers, vol. 19, no. 3, pp. 295-301, June 1999.
14. P.Varzakas and G.S.Tombras, "Spectral Efficiency for a Hybrid DS/FH Code-Division Multiple-Access System in Cellular Mobile Radio", *IEEE Transactions on Vehicular Technology*, vol. 50, no. 6, pp. 1321-1327, November 2001.
15. P.Varzakas and G.S.Tombras, "Average channel Capacity for RAKE receivers", *IEE Electronics Letters*, vol.38, no. 10, pp.475-476, May 2002.
16. P.Varzakas and G.S.Tombras, "Spectral Efficiency of adaptive hybrid DS/FFH CDMA in Rayleigh fading", *IEE Electronics Letters*, vol.39, no. 1, pp.145-147, January 2003.
17. P.Varzakas and G.S.Tombras, "Optimal Hop number of adaptive hybrid DS/FFH CDMA in Rayleigh fading", *IEE Electronics Letters*, vol.39, no.6, pp.557-558, March 2003.
18. N.C.Sagias, D.A.Zogas, G.K.Karagiannidis, and G.S.Tombras, "Performance Analysis of switched diversity over Weibull fading," *IEE Electronics Letters*, vol.39, no.20, pp. 1472-1474, October 2003.
19. N.C.Sagias, P.T.Mathiopoulos, and G.S.Tombras, "Selection diversity receivers in Weibull fading: Outage probability and average signal-to noise ratio," *IEE Electronics Letters*, vol.39, no.25, pp. 1859-1860, December 2003.
20. N.C.Sagias, G.K.Karagiannidis, and G.S.Tombras, "Error Rate Analysis of switched diversity receivers in Weibull fading," *IEE Electronics Letters*, vol.40, no.11, pp. 681-682, May 2004.

21. N.C.Sagias, D.A.Zogas, G.K.Karagiannidis, and G.S.Tombras, "Channel Capacity and Second Order Statistics in Weibull Fading", *IEEE Communications Letters*, vol.8, no.6, pp.377-379, June 2004.
22. N.C.Sagias, D.A.Zogas, G.K.Karagiannidis, P.T.Mathiopoulos, and G.S.Tombras, "Performance analysis of dual selection diversity in correlated Weibull fading channels," *IEEE Transactions on Communications*, vol.52, no.7, pp.1063-1067, July 2004.
23. D.Ninos, G.S.Tombras, C.Mavromatou, and V.Hadjicontis, "On the detection of acoustic and electromagnetic signals before fracture of dielectric crystalline materials", *IEEE Geoscience and Remote Sensing Letters*, vol.1, no.3, pp.162-165, July 2004.
24. N.C.Sagias, P.Varzakas, G.S.Tombras, and G.K.Karagiannidis, "Average channel capacity for generalized selection combining RAKE receivers", *European Transactions on Telecommunications*, vol.15, pp.497-500, Sept./Oct. 2004.
25. N.C.Sagias, P.Varzakas, G.K.Karagiannidis, and G.S.Tombras, "Spectral efficiency for selection combining RAKE receivers over Weibull Fading Channels", *Journal of the Franklin Institute*, vol. 342, Issue 1, pp. 7-13, January 2005.
26. N.C.Sagias, G.S.Tombras and G.K.Karagiannidis, "New results for the Shannon Channel Capacity in Generalized Fading Channels", *IEEE Communications Letters*, vol.9, no.2, pp.97-99, February 2005.
27. V.Hadjicontis, G.S.Tombras, D.Ninos, and, C.Mavromatou, "Memory effects in electromagnetic emission during deformation of dielectric crystalline materials", *IEEE Geoscience and Remote Sensing Letters*, vol.2, no.2, pp.118-120, April 2005.
28. G.K.Karagiannidis, D.A.Zogas, N.C.Sagias, S.A.Kotsopoulos, and G.S.Tombras, "Equal Gain and Maximal Ratio Combining over nonidentical Weibull Fading Channels", *IEEE Transactions on Wireless Communications*, vol.4, no.3, pp.841-846, May 2005.
29. N.C.Sagias, G.K.Karagiannidis, D.A.Zogas, S.A.Kotsopoulos, and G.S.Tombras, "Average Output SINR of Equal Gain Diversity in Nakagami Fading with Cochannel Interference," *IEEE Transactions on Wireless Communications*, vol.4, no.4, pp.1407-1411, July 2005.
30. P.Varzakas and G.S.Tombras, "Spectral Efficiency of a cellular MC/DS-CDMA system in Rayleigh fading", *International Journal of Communications Systems*, Wiley, vol. 18, no. 8, pp. 795-801, October 2005.
31. D.A.Zogas, N.C.Sagias, G.S.Tombras and G.K.Karagiannidis , "Average Output SNR of Equal-Gain Diversity Receivers over Correlative Weibull Fading Channels", *European Transactions on Telecommunications*, vol.16, no.6, pp.521-525, November-December 2005.
32. P.Varzakas and G.S.Tombras, "Spectral Efficiency of a single-cell multi-carrier DS-CDMA system in Rayleigh fading", *Journal of the Franklin Institute*, vol. 343, Issue 3, pp. 295-300, May 2006.
33. E.A.Prosalentis and G.S.Tombras, "A 2-bit Adaptive Delta Modulation System with Improved Performance", *EURASIP Journal on Advances in Signal Processing*, Article ID 16286, Volume 2007.
34. N.C.Sagias and G.S.Tombras, "On the cascaded Weibull fading channel model", *Journal of the Franklin Institute*, vol. 344, Issue 1, pp. 1-11, Jan. 2007.
35. E.A.Prosalentis and G.S.Tombras, "Description of a 2-bit Adaptive Sigma Delta Modulation System with minimized idle tones", *EURASIP Journal on Advances in SignalProcessing*, Article ID 426502, Volume 2008.

36. C.K.Datsikas, N.C.Sagias, F.I.Lazarakis, and G.S.Tombras, "Outage Analysis of Decode-and-Forward Relaying over Nakagami- m Fading Channels", *IEEE Signal Processing Letters*, vol.15,no.1, pp.41-44, Jan.2008.
37. C.Mavromatou, G.S.Tombras, D.Ninos, and V.Hadjicontis, "Electromagnetic emission memory phenomena related to LiF ionic crystal deformation", *Journal of Applied Physics*, Vol. 103, Iss. 8, 15 April 2008.
38. M.P.Hanias and G.S.Tombras, "Time Series Analysis in a Single Transistor Chaotic Circuit", *Chaos, Solitons and Fractals*, (available online 4 September 2007), Vol. 40, Issue 1, April 2009, pp. 246-256.
39. M.P.Hanias, Z.Avgerinos, and G.S.Tombras, "Period Doubling, Feigenbaum Constant and Time-Series Prediction in an Experimental Chaotic RLD Circuit", *Chaos, Solitons and Fractals*, (available online 24 October 2007), Vol. 40, Issue 3, May 2009, pp. 1050-1059.
40. M.P.Hanias, and G.S.Tombras, "Time series cross prediction in a single transistor chaotic circuit", *Chaos, Solitons and Fractals*, (available online 17 June 2008), Vol. 41, Issue 3, August 2009, pp. 1167-1173.
41. D.S.Michalopoulos, G.K.Karagiannidis, and G.S.Tombras, "Symbol error probability of decode and forward cooperative diversity in Nakagami- m fading channels", *Journal of the Franklin Institute*, Vol.345, Iss.7, Oct. 2008, pp.723-728.
42. P.Lalos, and G.S.Tombras, "Introducing JOUNBO: A New Advanced Online Journal and Newspaper Browser", *Journal of Multimedia*, Vol. 3, No. 4, October 2008, pp. 26-33.
43. H.E.Nistazakis, E.A.Karagianni, A.D.Tsigopoulos, M.E.Fafalios, and G.S.Tombras, "Average Capacity of Optical Wireless Communication Systems Over Atmospheric Turbulence Channels", *IEEE/OSA Journal of Lightwave Technology*, Vol. 27, Issue 8, April 2009, pp. 974-979.
44. A.Katsis, H.E.Nistazakis, G.S.Tombras, "Bayesian and frequentist estimation of the performance of free space optical channels under weak turbulence conditions", *Journal of the Franklin Institute*, Vol. 346, Issue 4, May 2009, pp.315-327.
45. H.E.Nistazakis, T.A.Tsiftsis, and G.S.Tombras, "Performance Analysis of Free-Space Optical Communication Systems over Atmospheric Turbulence Channels", *IET Communications*, Vol. 3, Issue 8, pp. 1402-1409, August 2009.
46. E.A.Prosalentis and G.S.Tombras, "Elimination of idle tones by a 2-bit Adaptive Sigma Delta Modulation system", 2009, *ETRI Journal*, Vol.31, Iss.4, pp. 393-398, August 2009.
47. H.E.Nistazakis, G.S.Tombras, A.D.Tsigopoulos, E.A.Karagianni, M.E.Fafalios, "Capacity Estimation of Optical Wireless Communication Systems Over Moderate to Strong Turbulence Channels", *Journal of Communications and Networks*, Vol.11, no.4, pp 384-389, August 2009.
48. M.P.Hanias, I.L.Giannis, and G.S.Tombras, "Chaotic operation by a single transistor circuit in the reverse active region", *CHAOS*, Vol.20, Iss.1, Article no: 013105, March 2010, (available online 20 January 2010).
49. K.P.Peppas, A.Mansour, and G.S.Tombras, "Dual-hop transmissions with fixed-gain relays over Generalized-Gamma fading channels", *JOURNAL OF TELECOMMUNICATIONS*, Vol. 1, Iss. 1, pp. 87-93, Feb. 2010 (available online).
50. E.A.Prosalentis and G.S.Tombras, "Elimination of idle tones by a second order 2-bit Adaptive Sigma Delta Modulation system", 2009, *Analog Integrated Circuits & Signal Processing*, Vol. 63, Iss. 2, pp. 313-320, May 2010.

51. N.C.Sagias, R.K.Mallik, and G.S.Tombras, "Error Rate Performance of Multilevel Signals with Coherent Detection", *IEEE Trans. On Communications*, Vol.58, Iss.8, pp. 2188-2192, Aug. 2010.
52. C.K.Datsikas, K.P.Peppas, N.C.Sagias, and G.S.Tombras, "Serial Free-Space Optical Relaying Communications Over Gamma-Gamma Atmospheric Turbulence Channels", *Journal of Optical Communications and Networking*, Vol.2, Iss.8, pp. 576-586, Aug. 2010.
53. C.K.Datsikas, K.P.Peppas, H.E.Nistazakis, and G.S.Tombras, "Dual-hop relaying communications over Generalized-K (KG) fading channels", *Journal of the Franklin Institute*, Vol. 347, Iss. 9, pp. 1643-1653, Sept. 2010.
54. C.K.Datsikas, K.P.Peppas, F.I.Lazarakis and G.S.Tombras, "Error Rate Performance Analysis of Dual-Hop Relaying Transmissions over Generalized-K Fading Channels", *AEU International Journal of Electronics and Communications*, Vol. 64, Iss. 11, pp. 1094-1099, 2010.
55. M.P. Hantias, H.E. Nistazakis, and G.S. Tombras, "Configuring Time-Lagged Recurrent Neural Network using Strange Attractor's Topological Properties", *Journal of Concrete and Applicable Mathematics*, Vol. 9, No. 1, pp. 40-46, 2011.
56. M.P. Hantias, H.E. Nistazakis, and G.S. Tombras, "A Simulation Study of a Simple Optoelectronic Chaotic Circuit", *Journal of Concrete and Applicable Mathematics*, Vol.9, No.2, pp.163-167, 2011.
57. N.C.Sagias, F.I.Lazarakis, A.A.Alexandridis, K.P.Dangakis, and G.S.Tombras, "Higher order capacity statistics of diversity receivers", *Wireless Personal Communications, Wireless Personal Communications*, Vol. 56, Iss.4, pp. 649-668, Febr. 2011.
58. H.E. Nistazakis, A.D. Tsigopoulos, M.P. Hantias, C.D. Psychogios, D. Marinos, C. Aidinis, and G.S. Tombras, "Estimation of Outage Capacity for Free Space Optical Links Over I-K and K Turbulent Channels", *Radioengineering*, Vol. 20, No. 2, pp. 493-498, 2011.
59. C.K.Datsikas, K.P.Peppas, N.C.Sagias, and G.S.Tombras, "Serial relaying communications over generalized-gamma fading channels", *Wireless Communications and Mobile Computing*, 2010, in press.
60. H.E. Nistazakis, V.D. Assimakopoulos, and G.S. Tombras, "Performance Estimation of Free Space Optical Links Over Negative Exponential Atmospheric Turbulence Channels", *Elsevier Optik - International Journal for Light and Electron Optics*, in press.

REFEREED PAPERS IN CONFERENCE PROCEEDINGS

1. G.S.Tombras and C.A.Karybakas, "A new adaptation algorithm for 2-digit Adaptive Delta Modulation", *Proceedings of the International Conference on Data Communications Technology 1988*, NIHE Limerick, Rep. of Ireland.
2. G.S.Tombras and S.Siscos, "An externally triggered CMOS triangle or ramp pulse generator", *Mediterranean Electrotechnical Conference (MELECON '91)*, May 1991, Ljubljana, Yugoslavia.
3. G.S.Tombras and C.Courtis, "Implementation and performance of a delayed continuously variable slope delta modulator", *Mediterranean Electrotechnical Conference (MELECON '91)*, May 1991, Ljubljana, Yugoslavia.

4. A.Papavramidis, A.Paschalis, O.Myrtue, K.Dangakis, G.S.Tombras and P.Kostarakis, "A Conformance Test System for DECT physical layer", *Proceedings of the 3rd IEEE International Symposium on Personal, Indoor and Mobile Radio Communications, (PIMRC'92)*, October 1992, Boston, USA.
5. K.Dangakis, G.S.Tombras, A.Paschalis, A.Papavramidis and P.Kostarakis, "Development of a Conformance Test System for ERMES receivers", *Proceedings of the 3rd IEEE International Symposium on Personal, Indoor and Mobile Radio Communications, (PIMRC'92)*, October 1992, Boston, USA.
6. F.Lazarakis, G.S.Tombras and K.Dangakis, "Average Capacity of Rician fading Channels with diversity", *Proceedings of the Fourth International Symposium on Personal, Indoor and Mobile Radio Communications, (PIMRC'93)*, September 1993, Yokohama, Japan.
7. A.Papavramidis and G.S.Tombras, "On the concept of an adaptive integrated Conformance Test System", *Proceedings of the Fourth International Symposium on Personal, Indoor and Mobile Radio Communications, (PIMRC'93)*, September 1993, Yokohama, Japan.
8. A.Papavramidis, G.S.Tombras and D.Doukas, "Adaptation of Land Mobile Systems for Onboard operation", *Proceedings of the 2nd International Conference on Universal Personal Communications, (ICUPC'93)*, October 1993, Ottawa, Canada.
9. G.S.Tombras, M.Ch.Tsilis and G.E.Alexakis, "A novel design technique for high quality audio power circuits", *96th Audio Engineering Society Convention, preprint no.3838*, Febr. 1994, Amsterdam, The Netherlands.
10. F.Lazarakis, K.Dangakis, A.Alexandridis and G.S.Tombras, "A point-to-point mobile radio prediction model based effective height estimation for the region of Athens", *Proceedings of the Fifth International Symposium on Personal, Indoor and Mobile Radio Communications, (PIMRC'94)*, September 1994, The Hague, The Netherlands.
11. F.Lazarakis, K.Dangakis, A.Alexandridis and G.S.Tombras, "Field measurements and coverage prediction model evaluation based on a Geographical Information System", *Proceedings of the Fifth International Symposium on Personal, Indoor and Mobile Radio Communications, (PIMRC'94)*, September 1994, The Hague, The Netherlands.
12. A.Papavramidis and G.S.Tombras, "System design requirements for mobile communications open to conformance testing", *Proceedings of the Fifth International Symposium on Personal, Indoor and Mobile Radio Communications and Wireless Computer Networks, (PIMRC'94 / WCN)*, September 1994, The Hague, The Netherlands.
13. A.C.Papavramidis, G.S.Tombras, and G.E.Alexakis, "Developing Location and Tracing Methods for Fast Moving Portables", *Proceedings of the third IEEE Symposium on Communications and Vehicular Technology in the Benelux*, Eindhoven, The Netherlands, October 1995, pp. 136-142
14. P.Varzakas and G.S.Tombras, "Estimation of Spectral Efficiency of Direct-Sequence Code Division Multiple Access in Mobile Radio", *The International Workshop on Mobile Communications, (IWMC'96)*, Thessaloniki, Greece, September 1996.
15. F.Lazarakis, A.A.Alexandridis, K.Dangakis, G.S.Tombras, and K.G.Filis, "Evaluation of a Propagation Model for the Region of Athens, Measurements and Statistical Analysis", *The International Workshop on Mobile Communications, (IWMC'96)*, Thessaloniki, Greece, September 1996.
16. S.M.Potirakis, G.E.Alexakis, and G.S.Tombras, "Generalised Two-port Performance Evaluation", *Third IEEE International Conference on Electronics, Circuits, and Systems, (ICECS '96)*, Rhodes, Greece, October 1996.

17. S.M.Potirakis, G.E.Alexakis, and G.S.Tombras, "An Alternative Two-Port Feedback Analysis Approach", *Third IEEE International Conference on Electronics, Circuits, and Systems, (ICECS '96)*, Rhodes, Greece, October 1996.
18. P.Varzakas and G.S.Tombras, "Spectral efficiency for FDMA and Direct-Sequence CDMA in mobile radio", *6th International Conference on Advances in Communications and Control: TELECOMMUNICATIONS / SIGNAL PROCESSING, (COMCON 6)*, pp. 847-853, June 1997, Corfu, Greece
19. P.Varzakas and G.S.Tombras, "Estimation of spectral efficiency for hybrid DS/FH CDMA in cellular mobile radio", *Proceedings of the International Conference on Telecommunications, (ICT'98)*, vol. II, pp.22-26, 22-25 June 1998, Chalkidiki, Greece.
20. P.Varzakas and G.S.Tombras, "Spectral efficiency for FDMA and DS-CDMA in cellular systems", *Proceedings of the 9th IEEE International Symposium on Personal, Indoor and Mobile Radio communications, (PIMRC'98)*, Sept., 1998, Boston, U.S.A.
21. P.Varzakas and G.S.Tombras, "Spectral efficiency for TDMA and Direct-Sequence CDMA in cellular systems", *7th International Conference on Advances in Communications and Control: TELECOMMUNICATIONS / SIGNAL PROCESSING, (COMCON 7)*, 28 June-2 July 1999, Athens, Greece.
22. P.Varzakas and G.S.Tombras, "Estimation of Spectral Efficiency for MC/DS-CDMA in Cellular Systems", *Proceedings of the Communications Symposium 2000 on Vehicular Technology and Communications - IEEE Benelux Chapter, (IEEE-SVTC)*, pp. 60-66, October 2000, IMEC, Leuven, Belgium.
23. P.Varzakas and G.S.Tombras, "Comparative estimation of FDMA and CDMA channel capacity in a Rayleigh fading channel", *Proceedings of the International Symposium on 3rd Generation Infrastructure and Services*, pp. 139-143, July 2001, Athens, Greece.
24. N.Sagias, A.Papathanasiou, P.T.Mathiopoulos, G.S.Tombras, "Burst Timing Synchronization for OFDM-based LEO and MEO Wideband Mobile Satellite Systems", *DSP 2001 – Seventh International Workshop on Digital Signal Processing Techniques for Space Communications*, October 2001, Sesimbra, Portugal.
25. P.Varzakas and G.S.Tombras, "Spectral efficiency for an adaptive hybrid DS/FFH-CDMA system in a Rayleigh fading channel", *Proceedings of the 5th European Workshop on Mobile/Personal Satcoms, EMPS2002*, September 2002, Bavero-Stresa, Lake Maggiore, Italy.
26. N.C.Sagias, G.K.Karagiannidis, D.A.Zogas, S.A.Kotsopoulos, and G.S.Tombras, "Performance of diversity receivers over non-identical Weibull fading channels," *Proceedings of the IEEE Vehicular Technology Conference 2004 (VTC 2004-Spring)*, vol.1, pp.480-484, Milan, May 2004.
27. N.C.Sagias, D.A.Zogas, G.K.Karagiannidis, P.T.Mathiopoulos, G.S.Tombras, and S.A.Kotsopoulos "Dual selection diversity over correlated Weibull fading channels," *IEEE International Conference on Communications (ICC 2004)*, vol. 6, pp.3384-3388, Paris, France, June 2004.
28. N.C.Sagias, G.K.Karagiannidis, D.A.Zogas, P.T.Mathiopoulos, G.S.Tombras, and F. Pavlidou, "Second order statistics and channel spectral efficiency for selection diversity receivers in Weibull fading," *Proceedings of the 15th IEEE International Symposium on Personal, Indoor and Mobile Radio communications, (PIMRC'04)*, vol.3, pp.2140-2145, September 2004.
29. N.C.Sagias, G.S.Tombras, G.K.Karagiannidis, and Th.A.Tsiftsis, "Equal-Gain Combining Receivers over Interference-Limited Nakagami-m Fading with Multiple Cochannel Interferers",

- Proceedings of the 12th National Conference on Communications, NCC 2006, IIT, N. Delhi, India, pp.3-8, January 2006.*
30. N.Vlassopoulos, D.Reisis, G.Lentaris, G.Tombras, E.Prosalentis, N.Ritas, and K.Tsakalis, "An approach for efficient design of digital amplifiers", *IEEE International Symposium on Circuits and Systems, (ISCAS '06)*, Kos, Greece, May 2006.
 31. C.K.Datsikas, G.S.Tombras, N.C.Sagias, F.I.Lazarakis, G.C.Alexandropoulos, A.A.Alexandridis, and K.P.Dangakis, "Dual-Hop Relaying Networks Over Nakagami- M Fading Channels", *The 18th Annual IEEE International Symposium on Personal, Indoor and Mobile Radio Communications, (PIMRC'07)*, Athens, Greece, September 2007.
 32. A.Katsis, H.E.Nistazakis, and G.S.Tombras, "Bayesian and frequentist estimation of the average capacity of log-normal wireless optical channels", *International e-Conference on Computer Science 2007 (IeCCS)*, American Institute of Physics (AIP) Conference proceedings.
 33. H.E.Nistazakis, G.S.Tombras, A.D.Tsigopoulos, E.A.Karagianni, and M.E.Fafalios, "Average Capacity of Wireless Optical Communication Systems over Gamma-Gamma Atmospheric Turbulence Channels", *IEEE MTT-S International Microwave Symposium (IMS 2008)*, Atlanta, Georgia, June15-20, 2008.
 34. N.C.Sagias, R.K.Mallik, and G.S.Tombras, "Error Rate Performance of Multilevel Signals with Coherent Detection", *IEEE GLOBECOM 2008*.
 35. H.E.Nistazakis, G.S.Tombras, A.D.Tsigopoulos, E.A.Karagianni, and M.E.Fafalios, "Average and Outage Capacity Estimation of optical wireless communication systems over weak turbulence channels", *Mosharaka International Conference on Communications, Propagation and Electronics*, 5-8 Febr. 2009, Amman, Jordan.
 36. H.E.Nistazakis, G.S.Tombras, A.D.Tsigopoulos, E.A.Karagianni, and M.E.Fafalios, "Average BER Estimation of optical wireless communication links using ooc over turbulence channels", *Mosharaka International Conference on Communications, Propagation and Electronics*, 5-8 Febr. 2009, Amman, Jordan.
 37. P.Lalos, C.K.Datsikas, N.Dimakopoulos, and G.S.Tombras, "Discovering DIMDIM: A heuristic evaluation of MOODLE's synchronous open source perspective", *WebSci'09: Society On-Line*, 18-20 March 2009, Athens, Greece.
 38. D.Marinos, H.E.Nistazakis, C.Aidinis, G.S.Tombras, M.Tsilis, A.D.Tsigopoulos and M.E.Fafalios, "A simple method for the multipath effect measurement in highly dispersive wireless optical channels", *3rd International Conference on Experiments/Process/System Modeling/Simulation & Optimization*, 3rd IC-EpsMsO, Athens, Greece, July 8-11, 2009.
 39. G.Alexandratos, D.Marinos, H.E.Nistazakis, C.Aidinis, M.Tsilis, and G.S. Tombras, "Wireless optical transmission for audio signal processing based on DSP TMS320C6416T", *International scientific conference (eRA-4)*, Spetses Island, Greece, September 24-26, 2009.
 40. H.E.Nistazakis, G.S.Tombras, M.P.Hanias, A.D.Tsigopoulos and M.E.Fafalios, "Average Capacity Estimation of Hybrid FSO/MMW Wireless Communication Systems", *Mosharaka International Conference on Communications, Propagation and Electronics (MIC-CPE 2010)*, pp.24-29, 5-7 March 2010, Amman, Jordan.
 41. M.P.Hanias, H.E.Nistazakis, and G.S.Tombras, "Configuring Time Lagged Recurrent Neural Network using Strange Attractor's Topological Properties", *3rd International Interdisciplinary Chaos Symposium on "Chaos and Complex Systems"*, CCS2010, 21-21 May 2010, Istanbul, Turkey.

42. M.P.Hanias, H.E.Nistazakis, and G.S.Tombras, “Study of an optoelectronic chaotic circuit”, *3rd International Interdisciplinary Chaos Symposium on “Chaos and Complex Systems”*, CCS2010, 21-21 May 2010, Istanbul, Turkey.
43. H.E.Nistazakis, D Marinos, M.Hanias, C.Aidinis, M.Tsilis, G.S.Tombras, A.D. Tsigopoulos, M.E. Fafalios, “Estimation of Capacity Bounds of Free Space Optical Channels Under Strong Turbulence Conditions”, *18th International Conference on Microwaves, Radar, and Wireless Communications MIKON-2010*, to be held in Vilnius, Lithuania, 14-16 June, 2010.
44. D.Marinos, G.Alexandratos, H.E.Nistazakis, C.Aidinis, G.S.Tombras, M.Tsilis, A.D.Tsigopoulos and M.E.Fafalios, “Manchester Coding Transmitter for Wireless Optical Communications based on TMS320C1646T DSP”, *4th International Conference from Scientific Computing to Computational Engineering (4th IC-SCCE)*, Athens, Greece, July 7-10, 2010.
45. A. Katsiampa, D. Marinos, C. Aidinis, E. Tsilis, G.S. Tombras and H.E. Nistazakis “Simulation Model for Indoor Wireless Optical Communications Channels”, International scientific conference, eRA-5, *Conference Proceedings*, (in press).
46. H.E. Nistazakis, A.D. Tsigopoulos, M.P. Hanias, A. Katsis, and G.S. Tombras, “Bayesian Estimation of the Performance of Gamma Gamma Free Space Optical Channels”, 4th International Conference on Experiments/Process/System Modeling/Simulation & Optimization, 4th IC-EpsMsO, *Conference Proceedings*, (in press).