

Dimitrios G. Babas

PERSONAL INFORMATION

Business Address:	RadioCommunications Lab (RCL) Department of Physics Aristotle University of Thessaloniki (A.U.Th.) 541 24, Thessaloniki, GREECE	Office Phone: +30 2310 998430	Email: babas@auth.gr
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STUDIES

2001 PhD in Physics, School of Physics, A.U.Th.
 1995 MSc in Electronic Physics (Radioelectrology), School of Physics, A.U.Th.
 1992 Diploma of Postgraduate Studies in Telecommunication and Information Systems, Dept. of Electronics Systems Engineering, University of Essex, U.K.
 1991 BSc in Physics, School of Physics, A.U.Th.

PROFESSIONAL EXPERIENCE

2014- Teaching Staff, School of Physics, A.U.Th.
 2011-13 Member of the National Board of Electromagnetic Compatibility (EMC) Experts
 2002- Management and administration support of the MSc in Electronic Physics (Radioelectrology), A.U.Th.
 1992- Member of the RadioCommunications Lab (RCL), A.U.Th.

RESEARCH ACTIVITY

Participation in 19 research projects related to the following areas

- Estimation of the exposure and measurements of electromagnetic radiation from RF sources (mobile telephony /FM radio/TV stations, radio links, Wi-Fi etc)
 - EM Field Measurements in the Vicinity of an Antenna Park for Radiation Hazard Purposes
 - Mapping of electromagnetic radiation in urban /rural areas
- Antenna Design
- Software development for the Design of Multibeam Antennas under constraints (Satellite Communications)
- RF/RFID system development
- Smart Antennas
- EMC measurements
- Environmental impact and possible hazards from air-traffic radar system installations / Design and implementation of an EM power density measurement system for an air-traffic radar
- Study of electromagnetic interference to airplanes while approaching "Makedonia" Airport at Thessaloniki (SKG)
- Electromagnetic Dosimetry for Mobile Communication

TEACHING EXPERIENCE

2014- School of Physics, A.U.Th.: *Electric Circuits Lab, Electronics Lab*
 2004- MSc in Electronic Physics (Radioelectrology), A.U.Th.: *Antennas – Microwaves, Satellite Communications, Broadband Communication Systems, Telecommunications Lab, Radiocommunications Lab, Electromagnetic Compatibility of electronic and telecommunication devices*
 1999-2008 Department of Electronics, T.E.I. of Thessaloniki: *Telecommunications I, Optical Communications, Electronic Measurements, Technology and Design of Electronic Devices, Optoelectronics Lab, Optical Communications Lab, Electronics Lab II, Supervision of 5 diploma theses.*

MEMBERSHIP

IEEE Member, Member of Hellenic Club of Electronic Physicists

REVIEWER IN JOURNALS – CONFERENCES

IET Electronics Letters, IET Microwaves, Antennas & Propagation, IEEE Trans. on Antennas & Propagation, IEEE Antennas and Wireless Prop. Letters, IEEE Open Journal of Instrumentation and Measurement, IEEE Trans. on Instrumentation and Measurement, Journal of Electromagnetic Waves and Applications - Progress In Electromagnetics

Research (PIER-JEMWA), Intern. Journal of Antennas and Propagation, Int. Conf. on Modern Circuits and Systems Technologies (MOCAST)

THESES

1. *Numerical Modelling of Erbium Doped Fibre Amplifiers*, Diploma thesis, Dept. of Electronics Systems Eng., University of Essex, U.K., 1992.
2. *Optimized Design of Dolph-Chebyshev Antenna Arrays under constraints*, Diploma Thesis, MSc in Electronic Physics, AUTH 1995 (in Greek).
3. *Telecommunication Waveguide Systems -Microstrip Structures*, PhD thesis, School of Physics, AUTH 2001 (in Greek).

JOURNAL PUBLICATIONS

1. *EM Field Measurements in the Vicinity of an Antenna Park for Radiation Hazard Purposes*, J.N.Sahalos, E.E. Vafiadis, T.S. Samaras, D.G. Babas and S.S. Koukourlis, IEEE Trans. on Broadcasting, Vol. 41, No.4, Dec. 1995.
2. *Time Domain Analysis of Microstrip Systems Using FD-FFT and FDTD Methods*, C. Mertzianidis, S. Koukourlis, Th. Samaras, D. Babas and J.N. Sahalos, Balkan Physics Letters, Vol. 4, No. 4, pp 206-213, Oct. 1996.
3. *Measurements of the Electromagnetic Radiation from a BTS for Radiation Hazard Purposes*, T. Samaras, D. Babas, E. Vafiadis and J. Sahalos, Journal of Applied Electromagnetism, Vol. 5, No. 1, pp. 53-62, Jan 2003.
4. *Design of Radiation - Emission Measurements of an Air Traffic Surveillance Radar*, G. Miaris, T. Kaifas, Z. Zaharis, D. Babas, E. Vafiadis, T. Samaras and J.N. Sahalos, IEEE Antennas and Propagation Magazine, Vol. 45, No. 4, pp. 35-46, Aug 2003.
5. *Synthesis method of series-fed microstrip antenna arrays*, D.G. Babas and J.N. Sahalos, Electronics Letters, Vol. 43, Issue 2, pp. 78-80, Jan 2007.
6. *On the Design of Chebyshev Endfire Arrays Subject to a Performance Index*, D.G. Babas and J.N. Sahalos, Electrical Engineering, Springer, vol. 90, no. 2, DOI:10.1007/s00202-007-0059-1, Dec 2007.
7. *Design of Planar Arrays with Reduced Non-uniform Excitation Subject to Constraints on the Resulting Pattern and the Directivity*, T.N. Kaifas, D.G. Babas, J.N. Sahalos, IEEE Trans. Antennas and Propag., Vol. 57, Issue 8, pp. 2270–2278, DOI: 10.1109/TAP.2009.2024484, Aug. 2009.
8. *On the Design of Direct Radiating Antenna Arrays with Reduced Number of Controls for Satellite Communications*, Th. Kaifas, K. Siakavara, D. Babas, G. Miaris, E. Vafiadis, J.N. Sahalos, Mobile Lightweight Wireless Systems, F. Granelli, C. Skianis, P. Chatzimisios, Y. Xiao, S. Redana (Eds.) (revised selected papers), LNICST 13, ICST Institute for Computer Sciences, Social - Informatics and Telecommunications Engineering, Springer, pp. 420-429, 2009.
9. *Aperiodic Array Layout Optimization by the Constraint Relaxation Approach*, T.N. Kaifas, D.G. Babas, D.S. Miaris, K. Siakavara, E.E. Vafiadis and J.N. Sahalos, IEEE Trans. Antennas and Propag., Vol. 60, Issue 1, pp. 148-163, DOI: 10.1109/TAP.2011.2167901, Jan 2012.
10. *A Stochastic Study of Large Arrays Related to the Number of Electrically Large Aperture Radiators*, T.N. Kaifas, D.G. Babas, G.S. Miaris, E. Vafiadis, K. Siakavara, G. Toso and J. N. Sahalos, IEEE Trans. Antennas and Propag., Vol. 62, Issue 7, pp. 3520-3533, DOI:10.1109/TAP.2014.2316285, July 2014.
11. *Multibeam Antennas for Global Satellite Coverage: Theory and Design*, T.N. Kaifas, D.G. Babas, G. Toso and J. N. Sahalos, IET Microwaves, Antennas & Propagation, Special Issue: Millimetre Wave Systems, Circuits and Antenna Integration Challenges for Broadband Everywhere, DOI:10.1049/iet-map.2015.0811, Aug 2016.
12. *A study of the long-term changes in the electromagnetic environment using data from continuous monitoring sensors in Greece*, Manassas, A., Apostolidis, C., Iakovidis, S., Babas D., Samaras Th., Sci Rep 13, 13784 (2023). <https://doi.org/10.1038/s41598-023-41034-3>.
13. *EF Assessment Utilizing Low-Cost Mobile Applications*, Delidimitriou, S., Babas, D., Manassas, A., Wiart, J., Samaras, T., Appl. Sci. 2024, 14, 10777. <https://doi.org/10.3390/app142310777>.
14. *RF-EMF bystander exposure in the 5G era measured across various microenvironments in Greece*, Delidimitriou, S., Babas, D., Manassas, A. Wiart, J., Samaras, T., Annals of Telecommunications, Jan 2026, <https://doi.org/10.1007/s12243-026-01143-2>.

CONFERENCE PUBLICATIONS

Peer reviewed papers (36) published in international conference proceedings.