

EDUCATION:

Doctor of Philosophy, Electrical Engineering, May 1998
Arizona State University, Tempe, Arizona – GPA: 4.0/4.0

Master of Science, Electrical Engineering, May 1994
Arizona State University, Tempe, Arizona – GPA: 4.0/4.0

Bachelor of Science, Electrical Engineering, August 1992
Arizona State University, Tempe, Arizona – GPA: 3.9/4.0, *Summa Cum Laude*.

TEACHING & ADMINISTRATION EXPERIENCE:

12/07 – present **PROFESSOR, Dept. of Engineering, University of Nicosia**
04/12 – present **Head of the Dept. of Engineering, University of Nicosia**
01/10 – 05/11 **SPECIAL SCIENTIST, Dept. of Electrical Engineering and IT, Cyprus University of Technology**
03/08 – 12/09 **Head of the Dept. of Electrical and Computer Engineering, University of Nicosia**
10/00 – 12/07 **ASSOCIATE PROFESSOR, Dept. of Electrical and Computer Engineering, Intercollege/University of Nicosia**

- Currently teaching undergraduate and graduate courses in Electrical & Computer Engineering.
- Courses prepared and taught during his teaching career include *Numerical Methods, Probabilities and Statistics, Ordinary Differential Equations, Electromagnetics I and II, Antennas for Wireless Communications, Microwave Circuits, Electronic Communications, Digital Integrated Circuits, Electric Circuits, Digital Systems, Electronics I, Special Topic on Numerical Methods in Electromagnetics, Engineering Mechanics: Statics, General Physics I and II, Calculus, Digital Systems Lab, Electric Circuits Lab, Electronics Lab, Senior Year Design Project.*
- Actively involved in the preparation of post-graduate programs in the Engineering Department. A great deal of effort and time is also spent on the continuous enrichment of the existing curricula.
- Has introduced a number of new courses in the curricula of Electrical and Computer Engineering.
- Leading role in the development of a PhD and Master's degree in Electrical Engineering with emphasis in Telecommunications and Electronic Communications.
- Active and leading role in the preparation and accreditation of the Master's & BSc degree in Oil & Gas Energy Engineering, a BSc degree in Civil & Environmental Engineering, a BSc in Mechanical Engineering, a Master's degree in Engineering Management, and now the BSc in Mechanical Engineering.
- Leading role in the preparation of three laboratories namely in the Oil & Gas Engineering, Civil & Environmental Engineering, and Mechanical Engineering.
- Prepared and submitted applications for program accreditation to SEKAP, ECPU, DIPAE and ETEK.
- Plays a key role in the communication and collaboration with industry representatives and scientific bodies (e.g., ETEK, IEEE, IET, etc.)
- Plays an active and key role in the decision making process of the Engineering Department.
- Part of the Search Committee for the hiring of new faculty members in the Engineering Department.
- Actively involved in a number of School and University committees including the School Council, Senate (2007-8, 2016-18), the Academic Affairs committee, the Faculty Affairs committee, the Ranking & Promotion committee, the School Research Committee, the University Faculty Disciplinary Committee, the PhD board, etc.
- Involved in the annual budget planning for the Engineering Department. He is in charge of the departmental Budget Committee responsible for the purchase of expensive lab equipment and specialized engineering software for the laboratories.

- Developed a technical degree curriculum for Intercollege which was accredited by SEKAP and is being currently running successfully. He was also in charge of setting up a new laboratory for electrical installations and renewable energies (Solar and wind).
- Initiated the acquisition of licensed engineering software packages such as MATLAB, Electronic Workbench (Multisim), PSpice, Xilinx ISE Foundation, IE3D, HFSS, Flowcode, ASPEN, CMG, AWR, AutoCAD, etc.
- Introduced projects and major computer assignments in core engineering courses to help students build computational skills and confidence in solving real-world type of problems.
- Launched the Newsletter of the Engineering department where he was the Editor-in-Chief for one year.
- Spends a great deal of time tutoring students and helping them cope with their homework and projects.
- Receives excellent teaching evaluations from his students.
- Student advisor for the capstone Final-Year Project of ECE students.

2010 – 2011 Taught an undergraduate course on *Probability and Statistics for Engineers* at **Cyprus University of Technology (CUT)**

1997 – 2000 Taught graduate courses on *Antenna Analysis and Design* at **Arizona State University**.

RESEARCH EXPERIENCE:

12/07 – present **PROFESSOR, Dept. of Engineering, University of Nicosia**

01/11 – 03/15 **RESEARCH SCIENTIST University of Nicosia Research Foundation (UNRF)**

12/08 – 12/10 **RESEARCH SCIENTIST Cyprus Academic Research Institute (CARI)**

03/08 – 12/09 **Head of the Dept. of Electrical and Computer Engineering, University of Nicosia**

10/00 – 12/07 **ASSOCIATE PROFESSOR, Dept. of Electrical and Computer Engineering, University of Nicosia**

- Published 32 articles in reputable scientific journals, 55 articles in peer-reviewed conference proceedings, and 2 chapters in books.
- Authored a book in 2006 entitled “*Introduction to the Finite Element Method in Electromagnetics*”, Morgan & Claypool Publishers, US.
- Working on an extension/follow-up of the first book entitled “*Vector Finite Elements with Applications in Electromagnetics*”.
- Co-founder of the Radio Telecommunications Lab (RTELab: www.rtelab.unic.ac.cy) established in 2010 in pursue of research funding and excellence in research.
- Current projects include the formulation and numerical modeling of electromagnetic propagation through Nematic Liquid Crystals (N-LC) under DC biasing conditions, the formulation of Integral Equations (IE) for the solution of electromagnetic scattering and radiation problems, and the solution of canonical scattering and antenna radiation problems using analytical and mode-matching methods.
- Collaborates with other research groups abroad on applied projects which involve design of passive RFID systems for hospitals, libraries, and airports. RFID issues related to tag readability, modulation efficiency, tag design, and power scavenging are currently investigated.
- Recently worked on the solution of large finite arrays of Cavity-Backed Slot (CBS) antennas using stationary/non-stationary block iterative techniques and Singular Value Decomposition (SVD).
- He was a Coordinator (CO) of research projects funded by the Research Promotion Foundation (RPF).
- Participated in a project funded by THALIS (2012-2015) called RFID-CORE.
- Participated in the write-up of an FP7-ICT-2011-C proposal on “Battery-less, Chip-less, Cost-less, Wire-less Sensing for Assisted Leaving”.
- He is active in writing proposals for potential funding by H2020 and RPF.
- Has collaborated on research topics/projects with a number of universities and companies including Arizona State University, Aristotle University of Thessaloniki, Democritus University of Thrace, Technical University of Crete, University of Cambridge, Ohio State University, University of Massachusetts at Amherst, University of Naples II, SALEX, OPTEL, Intel (Folsom, Chandler), Motorola (Mesa, AZ), and more.

- Participated in the COST Action IC0603 on Antenna Systems and Sensors for Information Society Technologies (ASSIST). In this framework, he organized a joint workshop meeting with COST 297 on April 7-11, 2008.
- Participated in the COST Action IC1102 on Versatile, Integrated, and Signal-Aware Technologies for Antennas (VISTA).
- Participated in a new COST Action proposal which was submitted in March 2016.
- Research interests include (tele)communication systems, antenna theory, analysis and design, microwave circuits, theoretical and computational Electromagnetics, electromagnetic propagation, numerical methods such as finite elements and integral formulations, electronic packaging at high frequencies, ferrite materials & their applications in electromagnetic, and liquid crystals (photonics).
- Participates in local and international conferences and publishes on a regular basis.
- Reviewer for the IET, the IEEE (AP-S and MTT), PIERS, ACE, COST, etc.
- Associate Editor of IET Journal on Microwaves, Antennas and Propagation (MAP).
- Technical Program Committee Member at the *IEEE RFID Technologies and Applications Conference (RFID-TA)*, the *International Conference on Communications*, the *European Conference on Antennas and Propagation (EuCAP)*, etc.
- Invited plenary speaker at AMiTaNS 2010.
- Invited speaker at a Convene Session on RFIDs at EuCAP 2011.

2/98 – 5/00

FACULTY RESEARCH ASSOCIATE, Electrical Engineering (TRC), Arizona State University

- Worked on research projects related to electronic communications for helicopters and aircrafts funded by government organizations (NASA, US ARMY, and US Navy) and industry (Sikorsky, Rockwell, Boeing and McDonnell Douglas).
- Acted as the technical research coordinator of the *Computational Electromagnetics (CEM)* group under the leadership of Prof. Balanis (world-renowned scientist).
- Wrote a number of proposals to attract funding.
- Performed research on topics of interest.
- Wrote quarterly progress reports for the sponsors.
- Published in prestigious refereed journals.
- Participated in international conferences.
- Co-advised MSc and PhD students.
- Acted as a consultant for private companies (e.g., Kyocera America).

Most research activities were concentrated on the following:

- Antenna design for helicopter communications within the HF, VHF and UHF (SATCOM) bands.
- Mitigation of electronic communication problems related to helicopter and military airplanes.
- Rotor modulation and adverse effects on the HF, VHF, and UHF communication links.
- Ferrite materials in antenna technology.
- Design of antenna arrays for tracking radar.
- Numerical issues related to the finite element method (FEM) in electromagnetics.
- Hybridization of the FEM with the method of moments (MoM) and high-frequency techniques.
- Microwave circuits and electronic packaging (monolithic MMICs, flip-chip technology, etc)
- Infinite phased arrays of cavity-backed slot/patch (CBS/P) antennas.
- Eigenvalue analysis of 2-D microwave structures using isotropic and anisotropic materials.

8/92 – 1/98

GRADUATE RESEARCH ASSISTANT, Telecommunications Research Center, Arizona State University

Worked on various research topics some of which include the following:

- Development of 2-D and 3-D Finite Element formulations for the solution of the time-harmonic Maxwell's equations.
- Analysis and design of passive microwave and millimeter wave circuits (*S*-parameters, effective propagation characteristics, ohmic and dielectric losses).
- Electrical characterization of high-frequency electronic packages. Investigation of performance degradation due to poor grounding and packaging effects.
- Development of hybrid *Finite Element Method and Method of Moments* for electromagnetic analysis and design of arbitrary shape Cavity-Backed Slots (CBS) with dielectric overlay and frequency-dependent materials (ferrites) for tuning capabilities – Radiation and Scattering.
- Analysis of Antennas mounted on helicopter airframes and ground vehicles.
- Investigation of the effect of rotor modulation on the communication systems of helicopters.
- High-frequency asymptotic techniques (GO, GTD, PO, PTD, MEC) for radiation and scattering from electrically large structures. Hybridization with other methods.

FUNDED PROJECTS:

- “*Intelligent Library Management System using Radio Frequency Identification*”, **Coordinator**, Research Promotion Foundation, €146,082, Nov. 2012 – Jan. 2015.
- “Liquid Crystal Displays with nano-pixels (nanoDisplay)”, **Participant & Co-PI**, Research Promotion Foundation, €175,272, 2011-2013 (Interrupted due to withdrawal of the Coordinator).
- “Πράσινες Δεξιότητες – Πράσινα Επαγγέλματα”, Σχέδιο Ενίσχυσης των Υποδομών και Συστημάτων Ανάπτυξης Ανθρώπινου Δυναμικού (ΑΝΑΔ), **Επιστημονικός Υπεύθυνος**, €215,725, 2011-2013
- “*Development of RF/RFID Systems for Control and Registration of Goods and Personnel*”, **Collaborating Foreign Researcher**, THALIS, €600,000, 2011-2014.
- “BLASE-ERC-04 - Backscatter Networks for Large-Scale Environmental Sensing”, **Participant**, 2012-2015
- “*Radio Frequency Identification (RFID) for Healthcare Applications*”, **Coordinator**, Research Promotion Foundation, €128,344, 2008-10.
- “*Next Generation Hybrid Optical-Wireless Communications*”, **Partner**, Research Promotion Foundation, 353,400 €, 2008-12.
- “*Tunable Cavity-Backed Slot Antennas for VHF/UHF/SATCOM Communications Using Ferrites*”, **Technical Coordinator**, Office of Naval Research (ONR), USA, \$470,672, 2000-3.
- “*Analysis of microwave circuits and electronic packages*”, **Participant**, Army Research Office (ARO), USA, \$300,000, 1993-6.
- “*Advance Helicopter Electromagnetics*”, **Participant**, Consortium of a number of companies including Boeing, Sikorsky, ONR, ARO, NASA, etc. On-going project for many years. ~\$300,000 per year, 1990-2000.

RECENTLY WRITTEN PROPOSALS

- **Polycarpou A.C.** (Coordinator), Bletsas A., Sahalos J.N., et al, “BattErylEss Multi-PurposE ScatterR Radio – Beeper” H2020-FETOPEN, 3.9MEuro, May 2016.
- Bletsas, A., **Polycarpou A.C.**, Sahalos, J.N., Georgiades A., et al, “*Battery-less Wireless Sensor Networks Monitoring Electrophysiology, Response and Communication of Plants under Abiotic Stress*”, PlantNET, FETOPEN, 2.8MEuro, March 31st, 2015.
- **Polycarpou A.C.**, Sahalos J.N., et al, “*Electronic Assistant for Diabetics – DIAAS*”, EUREKA, submitted on March 5th, 2015.
- Bletsas, A., **Polycarpou A.C.**, Sahalos, J.N., Georgiades A., et al, “*BAtteryless Wireless Sensor NetworkS Monitoring ElectroPHysiOLOgy and CommunIcatIon of PlantS*”, AMPHIPOLIS, Future and Emerging Technologies, FETOPEN, (3,958,875 €), September 2014 (received score: 4.6/5.0).

- **Polycarpou, A.C.**, Sahalos, J.N., Papanicolaou, N.C. and Christou, “*Liquid Crystal Based Reconfigurable Antennas for Smart Wireless Communication Systems*”, Bilateral Cooperation (Cyprus-Israel), ΔΙΑΚΡΑΤΙΚΕΣ/KY-ΙΣΡ/0114, 2014.
- Sahalos J.N., **Polycarpou A.C.** (Participant), “*Smart Antennas for Advanced Radio Information Systems (SAFARI)*” submitted to the Research Promotion Foundation under the call Bilateral Cooperation – Cyprus – Romania, September 2013.
- **Polycarpou A.C.** (Project Coordinator), “*An Intelligent System for Energy Savings based on Real-Time Monitoring of Energy Consumption and Human Activity in Residences*” submitted under **Technology/Energy** (152,834 €) to RPF on May 2011.
- **Polycarpou A.C.** (Project Coordinator), “*Intelligent Library Management System using Radio Frequency Identification*”, submitted under **Information & Communication Technologies** (146082 €) to RPF on May 2011.
- **Polycarpou A.C.** (Project Coordinator), “*Design and Implementation of a Smart Wireless Sensor Network for Early Detection and Localization of Forest Fires*”, submitted under **Upgrade of Existing Infrastructure** (338,139 €) to RPF on May 2011.
- Kyriakides I. and **Polycarpou A.C.** (partners), “*European Educational Remote Laboratory*” under action *Higher Education and Society*, TEMPUS, Feb. 2011.
- Sahalos J. and **Polycarpou A.C.** (partner), “*Design of Smart RF Front-Ends for Green Wireless Communication*”, submitted under **Information & Communication Technologies** (140,000 €) to RPF on May 2011.
- Georghiou A. and **Polycarpou A.C.** (partner), “*hOlographic Real-time Adaptive System for Imaging and Surveillance (ORASIS)*”, submitted under **Technology** (138,624 €) to RPF on May 2011.
- Georghiou A. and **Polycarpou A.C.** (partner), “*Liquid Crystal Displays with nano-pixels (nanoDisplay)*”, submitted under **Technology** (175,272 €) to RPF on May 2011.
- Sahalos J. and **Polycarpou A.C.** (partner), “*Numerical Electromagnetic Studies for Biomedical Applications with a Novel Eigenfunction Based Simulator, (NEBS)*”, Post Doctoral Research Funding (Life Long Learning), Greece, Nov. 2010.
- **Polycarpou A.C.** (Project Coordinator), “*Design and Simulation of RF-Microwave Smart Wireless Telecommunication Systems*”, submitted under **Communication Technologies** (150,000 €) to RPF on Sept. 2009
- **Polycarpou A.C.** (Partner), “*Liquid Crystal Displays with Nano-Pixels (NanoLCD)*”, submitted under **Technology** (150,000 €) to RPF on Sept. 2009
- **Polycarpou A.C.** (Partner), “*Distributed Portable Sensors for a Short Range Radar System (DISTANSS)*”, submitted under the Call A-0779-RT-GC-ICET Call 1 “Monitoring and Control” to the European Defense Agency (EDA), 1,000,000 €, October 2009.

WRITING/PRESENTATION SKILLS:

- Wrote numerous progress reports for funded projects by government and private companies including the Army Research Office (ARO), US Navy, NASA, Boeing, Rockwell, Sikorsky, etc.
- Wrote a number of proposals to the Research Promotion Foundation (RPF) of Cyprus, COST, European Defense Agency (EDA), etc.
- Presented research material at numerous international and European conferences, COST meetings, and local meetings with sponsor companies and organizations.
- Invited speaker at conferences.

BOOKS & CHAPTERS IN BOOKS:

- A.C. Polycarpou. *Introduction to the Finite Element Method in Electromagnetics*. **Morgan & Claypool Publishers**, July 2006. ISBN: 1598290460.
- C. A. Balanis and A. C. Polycarpou , “Antennas”, **Encyclopedia of Telecommunications**, pp. 179-188, **John Wiley & Sons Inc., NY, 2003**.

- C. A. Balanis, A. C. Polycarpou, M. N. Vouvakis and C. R. Birtcher, “*Hybridization of Boundary Element Method with the Finite Element Method in Electromagnetics*,” pp. 195-204, in **Boundary Elements XXIII**, (Eds. D. E. Beskos, C. A. Brebbia, J. T. Katsikadelis And G. D. Manolis), **WIT Press, 2001**.

CONSULTING:

- Acted as a consultant for **Kyocera America, Inc.** to design a *miniature spiral antenna on ceramic substrates*. The antenna was designed using the *Ensemble* package by **Ansoft** and an in-house developed finite element code. Two designs were proposed which were built and measured inside an electromagnetic anechoic chamber. The designs performed well according to specifications. This antenna was proposed for *Blue Tooth* applications.

PATENTS:

- A US patent was filed through **Kyocera America, Inc.** The title of the patent is “*Miniature Spiral Antenna on Ceramic Substrates*”.

CONFERENCES ORGANIZED:

- 3rd Management Committee Meeting & Workshop on “Antenna Systems & Sensors for Information Society Technologies”, COST Action IC0603 (ASSIST), Limassol, Cyprus, April 9-11, 2008. Website: www.cost-ic0603.unic.ac.cy

CHAIR FOR CONFERENCE SESSIONS:

- 2nd *Conference of the Euro-American Consortium for Promoting the Application of Mathematics in Technical and Natural Sciences*, Sozopol, Bulgaria, June 21-26, 2010.
- *1996 IEEE/MTT-S International Microwave Symposium*, San Francisco, June 17-21, 1996.

COMPUTER EXPERIENCE:

- UNIX platforms including HP, SGI, SUNS, and IBM workstations.
- Good knowledge of PC’s (Windows Vista/XP/2000, and LINUX).
- Programming languages: FORTRAN 77/90, C, and MATLAB.
- EM/CAD software packages: *HFSS, IE3D, Ensemble, Sonet, NEC, I-DEAS, AutoCAD, CNC, MAPLE*.

REPRESENTATIVE COURSEWORK IN GRADUATE SCHOOL:

- Data Communication Systems
- Electronic Communications
- Digital Spectral Analysis
- Digital Signal Processing
- Microwave Solid State Circuit Design
- Fiber/Coherent Optics
- High Resolution Radar
- Antenna Analysis and Design

- Applied Computational Methods
- Advanced Electromagnetic Field Theory
- Computational Methods in Electromagnetics
- Advanced Mathematics (Linear algebra, complex analysis, iterative methods, PDE's, etc.)

HONORS AND AWARDS:

- DeMund scholarship from Arizona State University (ASU): [8/96 – 5/97]
- Regents' Graduate Academic Scholarship (ASU): [8/92 – 5/96]
- Graduation with *summa cum laude* (ASU): [8/92]
- Regents' Scholarship for International Student (ASU): [8/91 – 8/92]
- Regents' Scholarship for Non-Resident Student (ASU): [1/91 – 5/91]
- Partial academic scholarship from the government of Cyprus: [1/90 – 8/92]

PROFESSIONAL ACTIVITIES:

- **Senior Member** of the Institute of Electrical and Electronic Engineers (**IEEE**) since 2009.
- **Member** of the Institute of Electrical and Electronic Engineers (**IEEE**) since 1992.
- **Member** and **Associate Editor** of IET Microwaves, Antennas and Propagation since 2014.
- **Member** of the Society of Petroleum Engineers (SPE) (2013-15).
- **Advisor** of the SPE Student Chapter at the University of Nicosia (2013-15).
- Reviewer for the **IEEE Transactions on Antennas & Propagation** and **IEEE Transactions on Microwave Theory & Techniques**
- Reviewer for the **IET, PIERS, ACE, SPRINGER journals, Physical Review**, etc.
- COST Action proposal evaluator
- External Examiner in **PhD viva** (University of Cyprus, Open University of Cyprus, University of Oviedo, etc.)
- Member of the **IEEE Antennas & Propagation Society**, the **IEEE Microwave Theory & Techniques Society**, and the **IEEE Electromagnetic Compatibility Society**.
- Member in Technical Program Committees (TPC) for International Conferences.
- Member of expert committee for the accreditation of universities and higher education institutes in Greece.
- Active member of ranking committees of Greek universities & TEI (member of APELLA).
- National delegate for COST Action IC0603 (ASSIST) – ended in 2011 – and COST Action IC1102 (VISTA) – ended in 2016.
- Member of the Informal Advisory Team “Space” – Research Promotion Foundation

JOURNAL PUBLICATIONS

1. M. Nestoros, M.A. Christou and **A.C. Polycarpou**, “Design of Wideband, Circularly Polarized Patch Antennas for RFID Applications in the FCC/ETSI UHF bands”, *Progress In Electromagnetic Research C*, 78:115-127, Jan. 2017.
2. **A.C. Polycarpou** and M.A. Christou, “Closed-Form Expressions for the On-Axis Scattered Fields by a Subwavelength Circular Aperture in an Infinite Conducting Plane”, *IEEE Transactions on Antennas & Propagation*, Vol. 65, No. 2, pp. 978-982, Feb. 2017.
3. M.A. Christou and **A.C. Polycarpou**, “Far-Field Scattering From an Electrically Small Circular Aperture in a Conducting Screen” *IEEE Transactions on Electromagnetic Compatibility*, Vol. 59, No. 2, pp. 404-410, Feb. 2017.

4. M.A. Christou, **A.C. Polycarpou**, N.C. Papanicolaou, "Modeling of Nematic Liquid Crystal Cells Subject to an Externally Applied Field", *Optik – International Journal for Light and Electron Optics* (Elsevier), Vol. 126, Issue 24, pp. 5269-75, Dec. 2015.
5. **A.C. Polycarpou**, A. Boursianis, T. Samaras, A. Bletsas, J.N. Sahalos, "Design Procedure of UHF RFID Reader Antennas based on ETSI and FCC Standards", *Wireless Power Transfer*, 2, pp. 32-43, Cambridge press, 2015, doi:10.1017/wpt.2015.1.
6. N. Papanicolaou, M.A. Christou, and **A.C. Polycarpou**, "Frequency-Agile Microstrip Patch Antenna on a Biased Liquid Crystal Substrate", *IET Electronics Letters*, Vol. 51, Issue 3, pp. 202-204, 2015, doi:10.1049/el.2014.3856.
7. **A.C. Polycarpou**, M.A. Christou, and N.C. Papanicolaou, "Tunable Patch Antenna Printed on a Biased Nematic Liquid Crystal Cell", *IEEE Transactions on Antennas and Propagation*, Vol. 62, Issue 10, pp. 4980-4987, October 2014, doi:10.1109/TAP.2014.2344099.
8. N.C. Papanicolaou, **A.C. Polycarpou**, and M.A. Christou, "Numerical Modeling of Electromagnetic Wave Propagation in a Liquid Crystal Cell at Oblique Incidence", *Applied Mathematics and Computations* (Elsevier), 219(22): 10643-10654, 2013, doi:10.1016/j.amc.2013.03.136.
9. P.C. Polycarpou, P. Komodromos, and **A.C. Polycarpou**, "A non-linear impact model for simulating the use of rubber shock-absorbers for mitigating the effects of structural pounding during earthquakes," *Earthquake Engineering and Structural Dynamics*, Wiley, Vol. 42, Issue 1, pp. 81-100, 2013 (online: 2 APR 2012 | DOI: 10.1002/eqe.2194).
10. **A.C. Polycarpou**, M.A. Christou, N.C. Papanicolaou, "A Mode-Matching Approach to Electromagnetic Wave Propagation in Nematic Liquid Crystals," *IEEE Transactions on Microwaves Theory & Techniques*, Vol. 60, Issue 10, pp. 2950-2958, October 2012.
11. **A.C. Polycarpou**, A. Bletsas, A. Dimitriou, P.C. Polycarpou, L. Papaloizou, G. Gregoriou, J.N. Sahalos, "On the Design, Installation, and Evaluation of a Radio Frequency Identification System for Healthcare Applications," *IEEE Magazine on Antennas & Propagation*, Vol. 54, Issue 4, pp. 255-271, 2012.
12. **Invited: A.C. Polycarpou**, G. Gregoriou, P.C. Polycarpou, A. Dimitriou, J. N. Sahalos, A. Bletsas, "*RFID in Hospital*" (translated in Brazilian by the magazine)," RTI Magazine, May 2012.
13. M.A. Christou, N.C. Papanicolaou, **A.C. Polycarpou**, "Modeling the Reflection from Cholesteric Liquid Crystals using Modal Analysis and Mode Matching", *American Physical Society (APS) Physical Review E*, Issue 3, Vol. 85, March 2012.
14. M.A. Christou and **A.C. Polycarpou**, "Analysis and Design of Longitudinally Corrugated Cylindrical Tips for Reduced Diffraction in the Shadow Region of a Conducting Wedge," *IET Microwaves, Antennas & Propagation*, Vol. 5, No. 15, pp. 1857-1862, Dec. 2011.
15. A. Dimitriou, A. Bletsas, **A.C. Polycarpou**, J.N. Sahalos, "Theoretical Findings and Measurements on Planning an Operational UHF RFID System inside a Room," *Radioengineering*, Vol. 20, No. 2, pp. 387-397, June 2011.

16. **A.C. Polycarpou** and M.A. Christou, "Full-Wave Scattering from a Grooved Cylinder-Tipped Conducting Wedge," *IEEE Trans. Antennas and Propagation*, pp. 2732-2735, Vol. 59, No. 7, July, 2011.
17. M.A. Christou, **A.C. Polycarpou**, N. Papanicolaou, "Soft Polarization Diffraction Coefficient for a Conducting Cylinder-Tip Wedge," *IEEE Trans. Antennas and Propagation*, Vol. 58, No. 12, pp. 4082-4085, Dec. 2010.
18. V.G. Kononov, C.A. Balanis, **A.C. Polycarpou**, C.R. Birtcher, "Non-Uniform Field Modeling of Ferrite-Loaded Cavity-Backed Slot Antennas," *IEEE Trans. Antennas and Propagation*, Vol. 57, No. 10, pp. 3402-3405, Oct. 2009.
19. **A.C. Polycarpou**, "Solution of Finite Arrays using Stationary Block Iterative Techniques," *IET Microwaves, Antennas & Propagation*, Vol.3, Issue 3, pp. 387-394, April 2009.
20. M.N. Vouvakis, C.A. Balanis, C.R. Birtcher, **A.C. Polycarpou**, "Multilayer Effects on Cavity-Backed Slot Antennas," *IEEE Trans. Antennas and Propagation*, Vol. 52, No. 3, pp. 880-887, March 2004.
21. M.N. Vouvakis, C.A. Balanis, **A.C. Polycarpou** and C.R. Birtcher, "Ferrite-loaded Cavity-Backed Antennas Including Non-Uniform and Non-Linear Magnetization Effects," *IEEE Transactions on Antennas and Propagation*, Vol. 51, No. 5, pp. 1000-1010, May 2003.
22. Dong-Ho Han, **A.C. Polycarpou**, and C.A. Balanis, "Hybrid Analysis of Reflector Antennas Including Higher-Order Interactions and Blockage Effects", *IEEE Trans. Antennas and Propagation*, Vol. 50, No. 11, pp. 1514-1524, November, 2002.
23. **A.C. Polycarpou**, C.A. Balanis and Andrej S. Stefanov, "Helicopter Rotor-Blade Modulation on Antenna Radiation Characteristics", *IEEE Transactions on Antennas and Propagation*, Vol. 49, No. 5, pp. 688-696, May 2001.
24. Dong-Ho Han, **A.C. Polycarpou** and C.A. Balanis, "Ground Effects for VHF/HF Antennas on Helicopter Airframes", *IEEE Transactions on Antennas and Propagation*, Vol. 49, No. 3, pp. 402-412, Mar. 2001.
25. C.A. Balanis, **A.C. Polycarpou** and S.V. Georgakopoulos, "Computational Electromagnetic Methods for Interconnects and Small Structures", *Superlattices and Microstructures*, Vol. 27, No. 5/6, 2000.
26. **A.C. Polycarpou**, C.A. Balanis, James T. Aberle and Craig Birtcher, "Radiation and Scattering from Ferrite-Tuned Cavity-Backed Slot Antennas: Theory and Experiment", *IEEE Transactions on Antennas and Propagation*, Vol. 46, pp. 1297-1306, Sep. 1998.
27. **A.C. Polycarpou** and C.A. Balanis, "An Optimized Anisotropic PML for the analysis of Microwave Circuits", *IEEE Microwave and Guided Wave Letters*, Vol. 8, pp. 30-33, Jan., 1998.
28. **A.C. Polycarpou**, and P.A. Tirkas, and C.A. Balanis, "The Finite Element Method for Modeling Circuits and Interconnects for Electronic Packaging", *IEEE Transactions on Microwave Theory and Techniques*, Vol. 45, pp. 1868-1874, Oct., 1997.

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