

ORLANDO R BAIOCCHI

CURRICULUM VITAE

MARCH 2022

1. Education:

- Doctor of Philosophy in Electrical Engineering, University College London, UK.
Dissertation: "Anisotropic Diffraction Phenomena in Space and in Time".
- Master of Science in Electrical Engineering, University of Rio de Janeiro, Brazil.
Dissertation: "Interaction of Electromagnetic Fields with Two-level Atom Media".
- B.Sc. in Electrical Engineering (Power Systems) and in Civil Engineering (Structures), Federal University of Rio Grande do Sul, Brazil.

2. Academic experience:

- Professor of Electrical Engineering, University of Washington Tacoma (UWT)
- UWT Endowed Professor in Engineering Systems 2012-2019
- Coordinator of all activities of the Wireless Sensor Networks (SENSE) research group, including cooperation with Brazilian and Portuguese (U of Azores) researchers.
- Coordinator of the Computer Engineering Program in the Institute of Technology, AY 2012-13, AY 2013-14 and AY 2015-18.
- Coordinator of Cooperation Agreements with the Brazilian Federal Universities of Campina Grande (UFCG), Paraiba (UFPB), Reconcavo da Bahia (FURB), Vale do Sao Francisco (UNIVASF) and the Mackenzie Presbyterian University.
- Director (2005-2011) and Professor, Institute of Technology, University of Washington, Tacoma (UWT), July 2005 to 2011.
- Dean, School of Information Systems and Engineering Technology, 2000-03, and Professor (2000-05), SUNYIT, August 2000 to September 2003.
- Chair and Professor, Department of Electrical and Computer Engineering, North Dakota State University, Fargo ND, 1997-2000.
- Tenured Professor and Chair (for three years), Department of Electrical and Computer Engineering, California State University, Chico, CA, 1986-1997.
- Visiting Associate Professor, Department of Electrical Engineering, University of Missouri-Rolla, Rolla, MO, 1984-1986.

- A number of teaching, research, and academic administration positions in Brazil, before 1984, including the Chair of the EE Department, at the University of Brasilia.

3. Selected Other Activities:

- Editor, "*Communication and Signal Processing Series*", Momentum Press
- Reviewer for the Department of Energy, Smart-Grid Initiative
- Program Evaluator for ABET- EAC, representing the IEEE
- Panelist for the IGERT Program - National Science Foundation
- Reviewer for the IEEE Transactions on Education.
- Reviewer for IEEE Transactions on Antennas and Propagation.
- Reviewer for the National Science Foundation, Division of Electrical and Communications Systems.
- Reviewer for IEEE-MTT Microwave and Guided Wave Letters.
- Reviewer for several national and international conferences.
- Referee of the Brazilian Journal of Computational and Applied Mathematics.
- Senior/Lifetime Member of the IEEE.

4. Teaching Experience:

- Electrical Engineering:

Circuit Analysis, Linear Systems, Introduction to Power Systems, Introduction to Communications. Electromagnetics, Transmission Lines, Antennas, Microwaves, Fourier Optics, Optical Signal Processing.

- Mathematics and Physics:

Theoretical Physics, Quantum Electronics, Special Relativity, General Physics, Applied Mathematics.

- General:

Impact of Technology on Society, History of Technology, Computers and Society. Computer Ethics, Engineering Ethics, Globalization.

5. PUBLICATIONS (2014- 2021):

1. ALENCAR, M., VALDMAN, H.; BAIOCCHI, F.; BAIOCCHI, O.R. History of Communications, River Publishers, Denmark, 2021, 350 pages estimated (In preparation).
2. OLIVEIRA, V. S.; CAMBOIM, M. M.; SOUZA, C. PROTASIO; BAIOCCHI, O. R.; KIM, H. A. Thermoelectric Energy Harvester based on Microstructured Quasicrystalline Solar Absorber. *Micromachines*, v. 12, p. 1-16, 2021.
3. BENATTI, R.; SOUZA, C. P.; BAIOCCHI, O. R. An Optimization Method based on LoRa Parameters for Energy Consumption Reduction. In: *The International Symposium on Instrumentation Systems, Circuits and Transducers. INSCIT 2021*, 2021, Campinas. *Proceedings of The International Symposium on Instrumentation Systems, Circuits and Transducers. INSCIT*, 2021. v. 1. p. 1-6.
4. FERREIRA, M. M.; MIGUEL, M. P. M. G.; SOUZA, C. P.; BAIOCCHI, O. R. An Experimental Validation of a Thermoelectric Generator LTspice Model for Energy Harvesting. In: *2021 IEEE 12th Annual Information Technology, Electronics and Mobile Communication Conference (IEMCON)*, 2021, Vancouver. *Proceedings of the IEEE 12th Annual Information Technology, Electronics and Mobile Communication Conference (IEMCON2021)*. New York: IEEE, 2021. p. 1-6.
5. MEDEIROS, M. L. A.; CAMBOIM, MARCELO MIRANDA; SOUZA, C. P.; BAIOCCHI, O. R. A Study of the Efficiency of an LTC3108-Based Circuit for Thermal Energy Harvesting. In: *2021 IEEE 12th Annual Information Technology, Electronics and Mobile Communication Conference (IEMCON)*, 2021, Vancouver. *Proceedings of the IEEE 12th Annual Information Technology, Electronics and Mobile Communication Conference (IEMCON2021)*. New York: IEEE, 2021. p. 1-6.
6. HOWE, S.; LEW, K.; TRINH, T.; BAI, Y.; BAIOCCHI, O.R.; DE SOUZA. C.P. Developing a LORA IOT Network and Blockchain Security for the Azores Archipelago. *Proceedings of World Research Society International Conference*, Quezon City, Philippines, 13th – 14th June 2021.
7. VILLARIM, M. R.; MEDEIROS, D. F.; MEDEIROS, L. C. S.; SOUZA, C. P.; PONTIERI, M. H.; SANTOS, N. A.; BAIOCCHI, O. R. A Calibrated Intelligent Sensor for Monitoring of Particulate Matter in Smart Cities, *SENSORS & TRANSDUCERS*, v. 250, p. 1-9, 2021.
8. CAMBOIM, MARCELO MIRANDA; OLIVEIRA, VINICIUS SILVA; VILLARIM, MARIANA RODRIGUES; VILLARIM, ANDREA WILLA RODRIGUES; CATUNDA, SEBASTIAN YURI CAVALCANTI; BAIOCCHI, ORLANDO R.; DE SOUZA, CLEONILSON PROTASIO. An Online Remote Verification System of Thermal Sources for Energy Harvesting Application. *IEEE TRANSACTIONS ON INSTRUMENTATION AND MEASUREMENT*, v. 69, p. 7962-7973, 2020.

9. OLIVEIRA, VINICIUS SILVA; MIRANDA CAMBOIM, MARCELO; SILVA GUEDES DE LIMA, BRUNO ALESSANDRO; PROTASIO DE SOUZA, CLEONILSON; BAIOCCHI, ORLANDO. A Solar-Radiation-Powered Thermoelectric Energy Harvester based on Quasicrystal. In: 2020 IEEE International Instrumentation and Measurement Technology Conference (I2MTC), 2020, Dubrovnik. 2020 IEEE International Instrumentation and Measurement Technology Conference (I2MTC), 2020. p. 1-6.
10. OLIVEIRA, V. S.; CAMBOIM, M. M.; SOUZA, C. P.; LIMA, B. A. S. G.; BAIOCCHI, ORLANDO. Absorvedor solar baseado em liga quasicristalina aplicado em geração de energia elétrica. In: Congresso Brasileiro de Energia Solar (VIII CBENS 2020), 2020, Fortaleza. Anais CBENS 2020. Fortaleza: Associação Brasileira de Energia Solar, 2020. v. 1. p. 1-11.
11. VILLARIM, M. R.; MEDEIROS, D. F.; SOUZA, C. P.; MEDEIROS, L. C. S.; PONTIERI, M. H.; SANTOS, N. A.; BAIOCCHI, O. R. Calibration of a Low-Cost Sensor for PM2.5 using a Reference PM Monitoring Station. In: 6th International Conference on Sensors Engineering and Electronics Instrumentation Advances (SEIA' 2020), 2020, Porto. Proceedings of the 6th International Conference on Sensors Engineering and Electronics Instrumentation Advances (**SEIA' 2020**). **Barcelona, Spain: International Frequency Sensor Association (IFSA) Publishing, S. L., 2020. v. 1. p. 1-4.**
12. OLIVEIRA, V. S.; SOUZA, C. P.; CAMBOIM, M. M.; LIMA, B. A. S. G.; BAIOCCHI, O. R. Avaliação experimental de revestimento quasicristalino em absorvedores térmicos aplicados em geração de energia elétrica. In: CERES, Congresso Nacional de Energias Renováveis, Energia e Sustentabilidade 2020, Natal: UFRN, 2020. p. 1-11.
13. AN, YAJUN; HOCKMAN, M.; BAIOCCHI, O.R. ;TENG,S. Computational model for temperature in tree trunk for energy harvesting. 2020 IEEE International IOT, Electronics and Mechatronics Conference (IEMTRONICS), 2020. P. 1–6.
14. MCMILLIN, D.; BAIOCCHI, O.R. Co-designing Innovations in a Time of Crisis: Centering Student Voices in Remote Learning. Proceedings of the 13th Annual International Conference of Education, Research and Innovation, Sevilla, November 2020.
15. CAMBOIN, MARCELO MIRANDA; BAIOCCHI, ORLANDO; VILLARIM, ANDREA WILLA RODRIGUES; CATUNDA, SEBASTIAN YURI CAVALCANTI; SOUZA, CLEONILSON PROTASIO DE; MOREIRA, CLEUMAR DA SILVA. An Automatic Emulation System for Environmental Thermal Energy Harvesting. In: 2019 IEEE International Instrumentation and Measurement Technology Conference (I2MTC), 2019, Auckland. 2019 IEEE International Instrumentation and Measurement Technology Conference (I2MTC), 2019. v. 1. p. 1-6.
16. BIONDI, KATALINA; AL-MASRI, EYHAB; BAIOCCHI, ORLANDO; JEYARAMAN, SUGANYA; POSPISIL, ERIC; BOYER, GRAHAM; DE SOUZA, CLEONILSON PROTASIO. Air Pollution Detection System using Edge Computing. In: 2019 International Conference in Engineering Applications (ICEA), 2019, Sao Miguel. 2019 Internacional Conference in Engineering Applications (ICEA), 2019. v. 1. p. 1-6.
17. LIMA, DIANA BEZERRA CORREIA; DA SILVA LIMA, RUBENS MATHEUS BRASIL; DE FARIAS MEDEIROS, DOUGLAS; PEREIRA, RENATA IMACULADA SOARES; DE SOUZA, CLEONILSON PROTASIO; BAIOCCHI, ORLANDO. A Performance Evaluation

- of Raspberry Pi Zero W Based Gateway Running MQTT Broker for IoT. In: 2019 IEEE 10th Annual Information Technology, Electronics and Mobile Communication Conference (IEMCON), 2019, Vancouver. 2019 IEEE 10th Annual Information Technology, Electronics and Mobile Communication Conference (IEMCON), 2019. p. 0076-6.
18. VILLARIM, M. R.; LUNA, J. V. H.; MEDEIROS, D. F.; PEREIRA, R. I. S.; SOUZA, C. P.; BAIOCCHI, O. R.; MARTINS, F. C. C. An Evaluation of LoRa Communication Range in Urban and Forest Areas: A Case Study in Brazil and Portugal. In: 2019 IEEE 10th Annual Information Technology, Electronics and Mobile Communication Conference (IEMCON), 2019, Vancouver. Proceedings of 2019 IEEE 10th Annual Information Technology, Electronics and Mobile Communication Conference (IEMCON), 2019. v. 1. p. 1-6.
 19. SHARIATZADEH, F. ; SOUZA, C. P. ; BAIOCCHI, O. R. . A Study on the Influence of Sustainable Material-based Walls on Wireless Communication Inside Buildings. THE INTERNATIONAL JOURNAL OF THE CONSTRUCTED ENVIRONMENT, v. 10, p. 61-70, 2019.
 20. PEREIRA, R. I. S.; CAMBOIM, M. M.; VILLARIM, A. W. R.; SOUZA, C. P.; JUCA, S. C. S.; CARVALHO, P. C. M. On Harvesting Residual Thermal Energy from Photovoltaic Module Back Surface. AEU-INTERNATIONAL JOURNAL OF ELECTRONICS AND COMMUNICATIONS, v. 111, p. 152878, 2019.
 21. BAIOCCHI, O. R.; MARTINS, F. C. C.; SOUZA, C. P. User-Generated Data Collected from a Wireless Sensor Network: Monitoring Air Pollution Levels in the Azores. In: XI International Conference on Engineering and Computer Education - ICECE2019, 2019, Guimarães. Anais do XI International Conference on Engineering and Computer Education - ICECE2019, 2019. p. 1-2.
 22. DE SOUZA, C.P.; VILARIM, M.R.; VILARIM, A.W.R.; BAIOCCHI, O.R.; MEDEIROS, D.F. An Energy Adder Circuit for Hybrid Energy Harvesting System. 2019 IEEE Pulse Power and Plasma Scalene Conference, Orlando, FL, June 2019.
 23. MC MILLIN, D.; BAIOCCHI, O.R. Geomedia, Tourism, and Civic Engagement, Proceedings of the Fifteenth Internacional Conference on Technology, Knowledge & Society, Barcelona, March 2019.
 24. SOUZA, CLEONILSON PROTASIO DE; BAIOCCHI, ORLANDO. Energy Resources in Agriculture and Forestry: How to be Prepared for the Internet of Things (IoT) Revolution. In: Pavel Tsvetkov. (Org.). Energy Systems and Environment. 1ed.Londres: InTech, 2018, v. 1, p. 25-39.
 25. AGUIAR, L.; SOUZA, C. P.; CARVALHO, F. B. S.; BAIOCCHI, O. R. Análise de Confiabilidade de uma Rede de Sensores Sem Fio em Linha usando OMNet++/Castalia. In: 8ª Conferência Nacional em Comunicação, Redes e Criptografia (ENCOM 2018), 2018, Salvador. Anais do ENCOM 2018, 2018. p. 1-3.

26. DE SOUZA, CLEONILSON PROTASIO; VILLARIM, ANDREA WILLA RODRIGUES; BAIOCCHI, ORLANDO. A 20mV Rectifier for Boosting Internet of Natural Things (IoNT). In: 2018 IEEE 9th Annual Information Technology, Electronics and Mobile Communication Conference (IEMCON), 2018, Vancouver. 2018 IEEE 9th Annual Information Technology, Electronics and Mobile Communication Conference (IEMCON), 2018. p. 401-405.
27. DE SOUZA, C.P.; VILARIM, M.R.; BAIOCCHI, O.R. A 20 mV Rectifier for Boosting the Internet of Natural Things Vilarim. Proceedings of the IEMCON 2018, p. 401-405. November 2018, Vancouver, Canada, also published in the IEEE Explorer.
28. DE SOUZA, C.P.; BAIOCCHI, O.R. A Smart Tree Powered by Harvesting Energy from its Trunk, Energy Harvesting Conference, Bristol, United Kingdom, May 2018, Poster Presentation.
29. A Low-cost IoT System for State Monitoring of Equipment in Industrial Plants”, with Souza, C.P., and Vilarim, A.W.R., IoTsm 2018 - International Conference on Industrial Internet of Things and Smart Manufacturing. Imperial College London, London, United Kingdom. 5-6 September 2018
30. DE SOUZA, C.P.; BAIOCCHI, O.R. A Smart Tree Powered by Harvesting Energy from its Trunk, with Souza, C.P., Energy Harvesting Conference, Bristol, United Kingdom, May 2018, Poster Presentation.
31. DE SOUZA, C.P.; BAIOCCHI, O.R. Emulating thermal source for powering Internet of Natural Things (IoNT). The IDTechEx Show! Internet of Things Applications USA 2017 Conference and Exhibition, Poster Presentation.
32. DE SOUZA, C.P.; VILARIM, A.W.R.; BAIOCCHI, O.R. A Smart City Solution for Pollution Monitoring In Heavy Traffic Streets, Student Poster Contest at The Annual IEEE Conference on Technologies for Sustainability (SusTech 2017).
33. DE SOUZA, C.P.; VILARIM, A.W.R.; BAIOCCHI, O.R. Using a Sensor Network to Create a 3D Model of Indoor Environmental Conditions over Time to Research and Address Sick Building Syndrome. Student Poster Contest at The Annual IEEE Conference on Technologies for Sustainability (SusTech 2017).
34. ROGERS, D.A.; BAIOCCHI, O.R.; MAASSEL, M. The History of Technology: An Interesting Course for Engineers. Proceedings of the ASEE North Midwest Conference, Minneapolis, MN September 2017, Volume C, Paper #4.
35. DE SOUZA, C.P.; BAIOCCHI, O.R. Emulating thermal source for powering Internet of Natural Things (IoNT). The IDTechEx Show! Internet of Things Applications USA 2017 Conference and Exhibition, Poster Presentation.
36. TOLENTINO, M.E.; LING, X; SHENG, J.; LIU, X.; BAIOCCHI, O.R. Identifying Parking Spaces and Detecting Occupancy Using Visio-based IoT Devices. IEEE 1st Global IoT Summit, Geneva, Switzerland, June 2017.
37. SOUZA, CLEONILSON P.; CARVALHO, FABRÍCIO B. S.; SILVA, FILYPE A. N.; ANDRADE, HENING A.; SILVA, NATHÁLIA DE V.; BAIOCCHI, ORLANDO; MÜLLER,

IVAN. On Harvesting Energy from Tree Trunks for Environmental Monitoring. *International Journal of Distributed Sensor Networks (Online)*, v. 2016, p. 1-9, 2016.

38. ROGERS, D.A.; BAIOCCHI, O.R.; MAASSEL, M.; BON, T.; PELOUBET, F. Engineering Ethics Education through More Than a Quarter Century. *Culture of Ethics Conference: Engineering for Human Dignity and the Common Good*, University of St. Thomas, St. Paul, Minnesota, October 2016.
39. LIU, X.; BAIOCCHI, O.R. Moving from Sensors to Smart Objects (invited plenary talk). *IENCOM 2016*, Fortaleza, Brazil, October 2016.
40. LIU, X.; BAIOCCHI, O.R. A Comparison of the Definitions for Smart Sensors, Smart Objects and Things in IoT. *The 7th IEEE Annual Information Technology, Electronics and Mobile Communication Conference*, Vancouver, Canada, pp.605-608, 13 - 15 October 2016.
41. DE SOUZA, C.P.; BAIOCCHI, O.R.; NASCIMENTO, F.; CARVALHO, F.B. On Harvesting Energy from Tree Trunks for Environmental Monitoring. *International Journal of Distributed Sensor Networks*, vol. 1, no. 9, 2016.
42. LIU, X.; BAIOCCHI, O.R. An IoT Course for A Computer Science Graduate Program”, *International Conference on Communication, Management and Information Technology (ICCMIT 2016)*, Cosenza, Italy, April 2016.
43. BAIOCCHI, O.R.; BRAGA, M.V. LAMPA, P.; SILVA, F.A.N; SILVA, M.G.; YEUNG, K.Y.; BARRETT, C.M.; LANDOWSKY, R.; CARVALHO, F.B.S. Development of a Wireless Sensor Network for Indoor Environment Using Wireless. *ENCOM*, Campina Grande, Brazil. October 2015.
44. BAIOCCHI, O.R. Collaboration Research at the University of Washington Tacoma: Challenges and Opportunities, Keynote/Invited *ENCOM*, Campina Grande, Brazil. October 2015.
45. BARRETT, C.M.; LANDOWSKY, R.; SHENG, J.; BAIOCCHI, O.R. Drone-based Wireless Network Sensors for Forest Fire Detection. *Proceedings of the Safety, Health and Environmental World Congress*, Porto, Portugal, July 2015.
46. PEREIRA, P.C.; ALENCAR, M.S.; BAIOCCHI, O.R. Application of Wireless Sensor Networks in the Monitoring of Environmental Variables: Temperature and Relative Humidity, *Safety, Health and Environmental World Congress*, Porto, Portugal, July 2015.
47. BAIOCCHI, O. R.; CARVALHO, F. B. S.; DE SOUZA, C. P.; SOARES, S. A. F.; G. LEAL, B.; BACURAU, R. M.; DUARTE, L. Wireless sensor networks research cooperation between University of Washington Tacoma (UWT) and Brazilian universities. In: XIII International Conference on Engineering and Technology Education - INTERTECH'2014, 2014, Guimarães, Portugal. Proceedings of the XIII International Conference on Engineering and Technology Education, 2014. Guimarães: COPEC, 2014. v. 1. p. 29-33.

48. ROGERS, D.A.; BAIOCCHI, O.R. A Global Vision for the 2020 Technology and Society Course. *Proceedings of the XIII International Conference on Engineering and Technology Education*, Guimaraes, Portugal, 2014.

6. PUBLICATIONS (BEFORE 2014)

1. Electromagnetics Challenges in a Telecommunications Engineering Curriculum” with S. Henry. Invited Paper, *Brazilian Journal of Telecommunications*, October 2013.
2. “Academic and Research Cooperation between University of Washington Tacoma and Brazilian Universities”. With F.B.S. Carvalho and R. Friedman, *Proceedings of the 2013 American Society for Engineering Education - Pacific Southwest Section Conference*, pp. 190-194, 2013.
3. “Development of a Smart Building Wireless Sensors Network: Cooperation between University of Washington Tacoma and Brazilian Universities”, with F.S. Carvalho, S.F. Soares, R. Bacurau and G. Mobus, *2013 Frontiers of Education Conference*, Oklahoma City, October 2013.
4. ”THz Non-destructive Evaluation Using Correlation Processing” with S. Henry and L. Zurk, *2013 Infrared, Millimetric Wave, Terahertz Conference*, Mainz, Germany, September 2013.
5. “Aplicações Ambientais de Redes de Sensores Sem Fio”, with F.B.S. Carvalho and others, *Revista de Tecnologia da Informação e Comunicação*, vol. 2, pp. 14-19, 2012. (In Portuguese).
6. “Multi-innovation Least Squares Parameter Estimation for Multi-rate SDR Receiver Systems, with J. Sheng, D. Wang, and L. Wear, *Proceedings of the 11th International Conference on Signal Processing*, Beijing, China, 2012.
7. “Propagation of Electromagnetic Pulses”, Invited Paper, *Revista de Tecnologia da Informação e Comunicação*, vol.1, no.1, October 2011, Campina Grande, Brazil.
8. “Electrical and Computer Engineering Education in Two Countries; a Paradigm for Cooperation”, with D. Rogers and M. Costa, *ASEE 2011 Annual Conference*, Vancouver, BC, June 2011.
9. “Computer Engineering Capstone Design Course at UW Tacoma”, with J. Sheng and L. L. Wear, 2010 Capstone Design Conference, June 7-9, 2010, Boulder, Colorado.

10. "Math + Science + Leadership (MSL) " with A. Ione, K. Davenport and L. L. Wear, Proceedings of the Synergy in STEM: Bringing Mathematics, Physics and Engineering Together Conference, New York City College of Technology, October 2009
11. "Project-Oriented Courses for Freshmen Engineers" with L. L. Wear and J. Sheng, First Ibero-American Symposium on Project Approaches in Engineering Education, University of Minho, Portugal, July 2009.
12. "Attracting & Retaining Engineering Students - A New Approach" with L. L. Wear, Engineer of the Future Gathering, Olin College, MA, April 2009.
13. "Designing an Assessment-Based Engineering Program, with L. L. Wear, International Conference on Engineering and Computer Science, 2007 (ICECE), Monguaguá, Brazil, March 2007.
14. "Integrating Computation Theory and Practice into the General Education Core", with George Mobus, WCCSETE'2006 – World Congress on Computer Science, Engineering and Technology Education, Santos, Brazil, March 2006.
15. "Extracting 3rd Order Chromatic Dispersion from Conventional Measurement Techniques", with K. R. Lefebvre and M. Sandav, 11th International Conference on Telecommunications, Fortaleza – Ceará, Brazil, August 2004.
16. "Security Framework of Optical Networks", with K. R. Lefebvre, M. Pramanik, and B. Paranjape, 11th International Conference on Telecommunications - Fortaleza – Ceará, Brazil, August 2004.
17. "*Intelligent Multimedia, Computers and Communications*" with M.R. Syed, International Conference on Intelligent Multimedia and Distance Education, Wiley, 2001.
18. "*Advances in Intelligent Computing and Multimedia Systems*", with M. Syed and G. Laskar, International Institute for Advanced Studies in Systems Research and Cybernetics, Windsor, Canada, August 1999.
19. "*Advances in Multimedia and Continuing Education*", with M. Syed and G. Laskar (editors), International Institute for Advanced Studies in Systems Research and Cybernetics, Windsor, Canada, August 1999.
20. "Evolution of an E-Course: A Case Study", with J. Landrum III, J. Olson, and N. Olson, Proceedings of the International Symposium on Intelligent Multimedia and Distance Education, Baden-Baden, Germany, August 1999.
21. "Walking On Two Legs (A new teaching approach for "Impact of Technology on Society")", with J. Landrum III, Proceedings of the 60th Annual ASEE Midwest Section Meeting, Winona, MN, October 1998.

22. "A Novel Spatial Modulation Spread-Spectrum Technique", with, S. A. Pradels, N. Marshall and N. Aery, Proceedings of the 13th Annual Review of Progress, Applied Computational Electromagnetic Society, March 1997.
23. "Visualization of Pulse Propagation Phenomena with Wavefront Software", with W.J. Bishop and S. A. Pradels, Proceedings of the 1996 Frontiers of Education Conference, Salt Lake City, Utah, November 1996.
24. "Pulse Propagation: Modeling and Simulation with MATLAB", with S. A. Pradels, Proc. of the 1996 Summer Computer Simulation Conference, Portland, Oregon, pp. 530-534, June 1996.
25. "Study of Eigenmode Propagation and Simulation of Microstrip Transmission Line Crosstalk", with M. Shimoji, Proc. of the 26th IEEE Southeastern Symposium on System Theory, Athens, Ohio, March 1994.
26. "A State-Space Approach to a Circuit Analysis Laboratory", with M. Shimoji, Proc. of the 1993 International Simulation Technology Multiconference, San Francisco CA, pp. 85-89, August 1993
27. "Pulse Propagation in Coplanar Superconducting Striplines", with K. -S. Kong and T. Itoh, *IEEE MTT Transactions*, vol. 40, no. 3, pp. 509-514, March 1992.
28. "Effects of Superconducting Losses on Pulse Propagation in Microstrip Lines", with K. - S. Kong, H. Ling and T. Itoh, *IEEE Microwave and Guided Wave Letters*, vol. 1, no. 1, pp. 2-4, January 1991.
29. "Pulse Propagation in Conventional and Superconductive Microstrip Lines", *Proceedings of the 4th Brazilian Microwave Symposium*, San Carlos, Brazil, pp. 13-18, July 1990.
30. "Modeling and Simulation of Ultrafast Pulse Propagation in Microstrip Lines", with M. K. Webb and P. O. Kwok, *7th International Conference on Mathematical and Computer Modeling*, pp. 378-382, Pergamon Press, New York, 1990.
31. "Pulse Dispersion in Microstrip Lines: An Extended Taylor Series Approach", with P. O. Kwok and M. K. Webb, *32nd Midwest Symposium on Circuits and Systems*, University of Illinois, August 1989.
32. "Simulation of Ultrafast Pulses in Superconductive Transmission Lines", with P. Kwok, M. Webb, and K. Khojasteh, *Proceedings of the 1989 European Simulation Congress*, pp. 641-644, Edinburgh, Scotland, September 1989.
33. "Microwave Engineering Education in Developing Countries: A Pilot Project from U. S. Industry and Academia", with N. Marshall and I. S. Baiocchi, *Proceedings of the 1989 ASEE Conference*, pp. 926-928, Lincoln, NE, June 1989.
34. "Simulation of Ultra-Short Pulse Propagation in Co-Planar Microstrip Transmission Lines", with M. Webb, and P. Kwok, *Proceedings of the 1989 Summer Computer Simulation Conference*, pp. 227-231, Austin, TX, July 1989.

35. "Education Towards self-sufficiency in Telecommunications. An Educational/ Industrial Partnership", with N. Marshall and L. Gruner, *Proceedings of the World Conference on Engineering Education for Advanced Technology*, pp. 117-120, Sidney, Australia, February 1989.
36. "Modeling of Dispersion Effects in Optical Systems", *Proceedings of the 1st Woodward Conf. on Wave Propagation*, pp. 268-275, Springer-Verlag, New York-Berlin, 1989.
37. "Simulation of diffraction and dispersion effects in digital acousto-optic converter", with D. A. Burton, *Proceedings of the 1988 Summer Computer Simulation Conference*, pp. 37-41, Seattle, July 1988.
38. "Ultrafast Pulse Propagation: Review and Computer Simulation", with D. A. Burton, *Proceedings of the 80th Midwest Symposium on Circuits and Systems*, pp. 812-815, North Holland, 1988.
39. "Dispersion Approximations Using Higher-Order Taylor Series Terms", with J. Marfice, *Applied Optics*, vol. 26, no. 19, pp. 4043-4045, October 1987.
40. "Numerical and Analytical Solutions for Pulse Distortion in Monomode Fibers: A Critical Review", with I. S. Baiocchi, R. D. Burks and C. T. Robinson, *Proc. 29th Midwest Symposium on Circuits and Systems*, pp. 55-59, North Holland, 1987.
41. "System Approach to the Analysis of the Femtosecond Dispersion-Diffraction Problem", with I. A. Barduniottis and V. J. Sisto, *Proceedings of the 29th Midwest Symposium on Circuits and Systems*, pp. 48-51, North Holland, 1987.
42. "Hermite-Gauss Formulation of Optical Fiber Dispersion Problems" with V. J. Sisto and S. Johnston, *Proceedings of the 29th Midwest Symposium on Circuits and Systems*, pp. 44-47, North Holland, 1987.
43. "A Generalized Form for the Non-Linear Transmission Line Equations", with M. A. Raupp, *Proceedings of the 28th Midwest Symposium on Circuits and Systems*, pp. 382-385, Louisville, Kentucky, August 1985.
44. "Transmission Line Transient due to Corona and Dielectric Breakdown", with M. V. Kritz and M. A. Raupp, *Proceedings of the 1983 URSI International Symposium on Electromagnetic Theory*, pp. 622-624, Santiago de Compostela, Spain, 1983
45. "Simulation of the Corona Effect in Transmission Lines", with M. A. Raupp, *Proceedings of the V Congress on Applied and Computational Mathematics*, pp. 102-104, Joao Pessoa, Brazil, 1982.
46. "On the Corona Effect: A Lumped Circuit Model", with M. A. Raupp, *Computation and Applied Mathematics*, vol. 1, no. 3, pp. 239-268, Rio de Janeiro, 1982.
47. "Non-linear Transients in Lumped and Distributed Circuits", with M. A. Raupp, *V Congress on Computation Systems, INTERSISCO 81*, Buenos Aires, 1981.
48. "Analysis of a Non-linear RLC-series Circuit", with M. A. Raupp, *Rev. Bras. Physics*, vol. 11, no. 1, pp. 211-230, Rio de Janeiro, 1981.

49. "Analysis of a RLC Circuit in the Dielectric Breakdown", with M. A. Raupp, *Bulletin of the Brazilian Mathematical Society*, vol. 11, no. 2, pp. 241- 252, Rio de Janeiro, 1980.
50. "Application of Convex Analysis to Nonlinear Electric Circuits", with M. A. Raupp, *Ciencia e Cultura*, vol. 32, no. 7, July 1980 (In Portuguese).
51. "The Influence of Diffraction and Dispersion on the Fidelity of Degenerate Convolution", with I. M. Mason, *IEEE Transaction on Sonics and Ultrasonics*, SU-22, pp. 345- 358, September 1975.
52. "Effects of Dispersion and Diffraction on some Signal Processing Systems", University College, London (internal), 1975.
53. "Long Delay and Special Devices", with I. M. Mason, et al., 13th SAW Liaison Meeting, Ministry of Defense/University College, London, 1974.
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