

## Asst. Prof. AHMET CEMAL DURGUN

### Personal Information

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### International Researcher IDs

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Publons / Web Of Science ResearcherID: AAZ-6331-2020

ScopusID: 36625312100

Yoksis Researcher ID: 328014

### Research Areas

Printed Circuits, Thin Film, Thick Film and Hybrid ICs, Passive Circuit Components, Cables, Switches and Connectors, Electric and Magnetic Fields, Electromagnetic Band Spacing Structures, Electromagnetic Waves, Antennas and Propagation, Passive Microwave Circuits, Planar Buildings

### Courses

Electromagnetic Theory, Undergraduate, 2020 - 2021

Engineering Design 2, Undergraduate, 2020 - 2021

Circuit Theory 1, Undergraduate, 2020 - 2021

Engineering Design 1, Undergraduate, 2020 - 2021

### Advising Theses

Durgun A. C., Microstrip patch antenna modeling with knowledge-based neural networks, Postgraduate, E.SU(Student), 2023

DURGUN A. C., Modeling of GaN power transistor package for design of broadband high-power amplifier, Postgraduate, Ö.BAŞTÜZEL(Student), 2022

### Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Low Loss Skip Layer Transmission Lines with Common Mode Filtering for Packages**  
DURGUN A. C., Aygun K.  
IEEE Transactions on Components, Packaging and Manufacturing Technology, vol.12, no.5, pp.839-846, 2022 (SCI-Expanded)
- II. **Causal and Passive Parameterization of S-Parameters Using Neural Networks**  
Torun H. M., Durgun A. C., Aygun K., Swaminathan M.  
IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES, vol.68, no.10, pp.4290-4304, 2020 (SCI-Expanded)
- III. **Wearable Flexible Reconfigurable Antenna Integrated With Artificial Magnetic Conductor**

- Saeed S. M., Balanis C. A., Birtcher C. R., Durgun A. C., Shaman H. N.  
IEEE ANTENNAS AND WIRELESS PROPAGATION LETTERS, vol.16, pp.2396-2399, 2017 (SCI-Expanded)
- IV. **High-Impedance Surfaces With Periodically Perforated Ground Planes**  
Durgun A. C., Balanis C. A., Birtcher C. R., Huang H., Yu H.  
IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, vol.62, no.9, pp.4510-4517, 2014 (SCI-Expanded)
- V. **Reflection Phase Characterization of Curved High Impedance Surfaces**  
Durgun A. C., Balanis C. A., Birtcher C. R.  
IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, vol.61, no.12, pp.6030-6038, 2013 (SCI-Expanded)
- VI. **Design, Simulation, Fabrication and Testing of Flexible Bow-Tie Antennas**  
Durgun A. C., Balanis C. A., Birtcher C. R., Allee D. R.  
IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, vol.59, no.12, pp.4425-4435, 2011 (SCI-Expanded)
- VII. **Computation of physical optics integral by Levin's integration algorithm**  
Durgun A. C., KUZUOĞLU M.  
Progress In Electromagnetics Research M, vol.6, pp.59-74, 2009 (SCI-Expanded)

### Refereed Congress / Symposium Publications in Proceedings

- I. **Tree-based Sequential Sampling for Efficient Designs in Package Electrical Analysis**  
Özese D., Baydoğan M. G., DURGUN A. C., Aygün K.  
28th IEEE Workshop on Signal and Power Integrity, SPI 2024, Lisbon, Portugal, 12 - 15 May 2024
- II. **A Flexible Neural Network-Based Tool for Package Second Level Interconnect Modeling**  
Karatoprak F., Saçın E. S., Özese D., Durgun A. C., Baydoğan M. G., Aygün K., Memioğlu T.  
IEEE 32nd Conference on Electrical Performance of Electronic Packaging and Systems (EPEPS), California, United States Of America, 15 - 18 October 2023, pp.1-3
- III. **Neural Network Modeling of Antennas on Package for 5G Applications**  
Saçın E. S., Durgun A. C.  
17th European Conference on Antennas and Propagation, EuCAP 2023, Florence, Italy, 26 - 31 March 2023
- IV. **Dual sided high frequency measurement of microelectronic packages**  
Christ S. R., Durgun A. C., Aygun K., Hill M. J.  
29th IEEE Conference on Electrical Performance of Electronic Packaging and Systems, EPEPS 2020, California, United States Of America, 5 - 07 October 2020
- V. **Enforcing Causality and Passivity of Neural Network Models of Broadband S-Parameters**  
Torun H. M., Durgun A. C., Aygun K., Swaminathan M.  
28th IEEE Conference on Electrical Performance of Electronic Packaging and Systems, EPEPS 2019, Montreal, Canada, 6 - 09 October 2019
- VI. **Electrical Performance Limits of Fine Pitch Interconnects for Heterogeneous Integration**  
Durgun A. C., Qian Z., Aygun K., Mahajan R., Hoang T. T., Shumarayev S. Y.  
69th IEEE Electronic Components and Technology Conference (ECTC), Nevada, United States Of America, 29 - 31 May 2019, pp.667-673
- VII. **Design of Low-loss Transmission Lines with Common Mode Suppression for Packages**  
Durgun A. C., Aygun K.  
27th IEEE Conference on Electrical Performance on Electronic Packaging and Systems (EPEPS), San-Jose, Costa Rica, 14 - 17 October 2018, pp.43-45
- VIII. **Fiber Weave Impact on Crosstalk of High Speed Communication Channels in Glass Epoxy Packages**  
Durgun A. C., Aygun K.  
IEEE International Symposium on Electromagnetic Compatibility (EMC), Ottawa, Canada, 25 - 29 July 2016
- IX. **Reflection Phase and Surface Wave Propagation Characteristics of a Symmetrical Perforated High Impedance Surface**  
Saeed S. M., Balanis C. A., Durgun A. C.  
IEEE-Antennas-and-Propagation-Society International Symposium, Fajardo, Puerto Rico, 26 June - 01 July 2016,

pp.1963-1964

- X. **Impact of Fiber Weaves on 56 Gbps SerDes Interface in Glass Epoxy Packages**  
Durgun A. C., Aygun K.  
24th IEEE Conference on Electrical Performance of Electronic Packaging and Systems (EPEPS), San-Jose, Costa Rica, 25 - 28 October 2015, pp.159-161
- XI. **Reflection Phase Characterization of a Circularly Symmetric High Impedance Surface**  
Amiri M. A., Balanis C. A., Durgun A. C.  
IEEE Antennas-and-Propagation-Society International Symposium (APSURSI), Tennessee, United States Of America, 6 - 11 July 2014, pp.1772-1773
- XII. **Surface Wave Effects on the Reflection Phase of Curved High Impedance Surfaces**  
Durgun A. C., Balanis C. A., Birtcher C. R.  
International Symposium of the IEEE-Antennas-and-Propagation-Society, Florida, United States Of America, 7 - 13 July 2013, pp.87-88
- XIII. **Surface Wave Suppression Properties of Perforated Artificial Impedance Surfaces**  
Durgun A. C., Balanis C. A., Birtcher C. R.  
International Symposium of the IEEE-Antennas-and-Propagation-Society, Florida, United States Of America, 7 - 13 July 2013, pp.89-90
- XIV. **A Novel HIS with a Perforated Ground Plane for Miniaturization and Bandwidth Enhancement**  
Durgun A. C., Balanis C. A., Birtcher C. R.  
IEEE International Symposium on Antennas and Propagation, Illinois, United States Of America, 8 - 14 July 2012
- XV. **Plane Wave Scattering from a Curved HIS: Normal Incidence**  
Durgun A. C., Balanis C. A., Birtcher C. R.  
IEEE International Symposium on Antennas and Propagation, Illinois, United States Of America, 8 - 14 July 2012
- XVI. **Physical Realization and Reflection Phase Characteristics of a Flexible High Impedance Surface**  
Durgun A. C., Balanis C. A., Birtcher C. R.  
IEEE International Symposium on Antennas and Propagation (APSURSI)/USNC/URSI National Radio Science Meeting, Washington, United States Of America, 3 - 08 July 2011, pp.1844-1847
- XVII. **Radiation Characteristics of a Flexible Bow-tie Antenna**  
Durgun A. C., Balanis C. A., Birtcher C. R., Allee D. R.  
IEEE International Symposium on Antennas and Propagation (APSURSI)/USNC/URSI National Radio Science Meeting, Washington, United States Of America, 3 - 08 July 2011, pp.1239-1242
- XVIII. **Flexible Bow-Tie Antennas with Reduced Metallization**  
Durgun A. C., Reese M. S., Balanis C. A., Birtcher C. R., Allee D. R., Venugopal S.  
IEEE Radio and Wireless Symposium (RWS), Arkansas, United States Of America, 16 - 19 January 2011, pp.50-53
- XIX. **Computation of Physical Optics Integral by Levin's Algorithm on NURBS**  
Durgun A. C., Kuzuoglu M., Balanis C. A.  
2010 IEEE International Symposium Antennas and Propagation/CNC-USNC/URSI Radio Science Meeting, Toronto, Canada, 11 - 17 July 2010
- XX. **Flexible Bow-tie Antennas**  
Durgun A. C., Reese M. S., Balanis C. A., Birtcher C. R., Allee D. R., Venugopal S.  
2010 IEEE International Symposium Antennas and Propagation/CNC-USNC/URSI Radio Science Meeting, Toronto, Canada, 11 - 17 July 2010

## Supported Projects

DURGUN A. C., BAYDOĞAN M. G., Project Supported by Private Organizations in Other Countries, Physics Informed Active Learning for Electrical Analysis of Second Level Interconnects, 2023 - 2025

## Activities in Scientific Journals

IEEE Transactions On Components, Packaging And Manufacturing Technology, Assistant Editor/Section Editor, 2020 - Continues

## Scientific Refereeing

Project Supported by Higher Education Institutions, BAP Research Project, Cankaya University, Turkey, June 2021

IEEE TRANSACTIONS ON COMPONENTS, PACKAGING AND MANUFACTURING TECHNOLOGY, Journal Indexed in SCI-E, May 2021

IEEE TRANSACTIONS ON COMPONENTS, PACKAGING AND MANUFACTURING TECHNOLOGY, Journal Indexed in SCI-E, April 2021

IEEE TRANSACTIONS ON COMPONENTS, PACKAGING AND MANUFACTURING TECHNOLOGY, Journal Indexed in SCI-E, April 2021

IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, SCI Journal, October 2020

IEEE Transactions On Components, Packaging And Manufacturing Technology, Journal Indexed in SSCI, August 2020

IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, SCI Journal, May 2020

IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, SCI Journal, April 2020

IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, SCI Journal, March 2020

## Tasks In Event Organizations

Durgun A. C., SPI 2023 – 27TH IEEE WORKSHOP ON SIGNAL AND POWER INTEGRITY, Scientific Congress, Aveiro, Portugal, Temmuz 2023

Durgun A. C., SPI 2022 – 26TH IEEE WORKSHOP ON SIGNAL AND POWER INTEGRITY, Scientific Congress, Germany, Mayıs 2022

Durgun A. C., SPI 2021 – 25TH IEEE WORKSHOP ON SIGNAL AND POWER INTEGRITY, Scientific Congress, Germany, Mayıs 2021

## Metrics

Publication: 27

Citation (WoS): 310

Citation (Scopus): 459

H-Index (WoS): 7

H-Index (Scopus): 8