

## **Asst. Prof. İ.EVRİM ÇOLAK**

### **Personal Information**

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### **International Researcher IDs**

ScholarID: VbYLU5gAAAAJ

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Publons / Web Of Science ResearcherID: K-5405-2015

ScopusID: 25630184100

Yoksis Researcher ID: 55077

### **Education Information**

Doctorate, Ihsan Dogramaci Bilkent University, Institute Of Engineering And Natural Sciences, Elektrik-Elektronik Mühendisliği (Dr), Turkey 2006 - 2012

Postgraduate, Middle East Technical University, Graduate School Of Natural And Applied Sciences, Elektrik Ve Elektronik Mühendisliği (YL) (Tezli), Turkey 2002 - 2005

Undergraduate, Middle East Technical University, Faculty Of Engineering, Elektrik-Elektronik Mühendisliği Bölümü, Turkey 1997 - 2002

Undergraduate, Middle East Technical University, Fen-Edebiyat Fakültesi, Fizik Bölümü, Turkey 1997 - 2002

### **Dissertations**

Doctorate, Waveguiding of electromagnetic waves and investigation of negative phase velocity in photonic crystals and metamaterials, Ihsan Dogramaci Bilkent University, Mühendislik Ve Fen Bilimleri Enstitüsü, Elektrik-Elektronik Mühendisliği (Dr), 2012

Postgraduate, An improved data acquisition system for contactless conductivity imaging, Middle East Technical University, Genel Biyoloji Anabilim Dalı, Elektrik Ve Elektronik Mühendisliği (YL) (Tezli), 2005

### **Research Areas**

Engineering and Technology

### **Academic Titles / Tasks**

Assistant Professor, Ankara University, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, 2013 - Continues  
Research Assistant, Ihsan Dogramaci Bilkent University, Faculty Of Engineering, Department Of Electrical And Electronics Engineering, 2006 - 2012

Research Assistant, Middle East Technical University, Faculty Of Engineering, Elektrik-Elektronik Mühendisliği Bölümü, 2002 - 2006

## Academic and Administrative Experience

Ankara University, 2015 - 2019

## Courses

MICROWAVES I, Undergraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022

MICROWAVES II, Undergraduate, 2022 - 2023, 2021 - 2022

ELE315 ELECTROMAGNETİCS II, Undergraduate, 2018 - 2019, 2017 - 2018, 2016 - 2017, 2015 - 2016, 2014 - 2015, 2013 - 2014

ELM311 ELEKTROMANYETİK II, Undergraduate, 2018 - 2019, 2017 - 2018, 2016 - 2017, 2015 - 2016, 2014 - 2015, 2013 - 2014

ELM471 MÜHENDİSLİKTE PROJELENDİRME I, Undergraduate, 2018 - 2019, 2017 - 2018, 2016 - 2017, 2015 - 2016, 2014 - 2015, 2013 - 2014

EEE216 ELECTROMAGNETİCS II, Undergraduate, 2017 - 2018

300200714051 RF YÜKSELTEÇLER, Postgraduate, 2017 - 2018, 2016 - 2017

ELE216 ELECTROMAGNETİCS I, Undergraduate, 2017 - 2018, 2016 - 2017, 2015 - 2016, 2014 - 2015

ELM472 MÜHENDİSLİKTE PROJELENDİRME II, Undergraduate, 2017 - 2018, 2016 - 2017, 2015 - 2016, 2014 - 2015, 2013 - 2014

ELM206 ELEKTROMANYETİK I, Undergraduate, 2017 - 2018, 2016 - 2017, 2015 - 2016, 2014 - 2015, 2013 - 2014

EEE215 ELECTROMAGNETICS I, Undergraduate, 2017 - 2018

ELE203 CIRCUIT ANALYSIS I, Undergraduate, 2014 - 2015, 2013 - 2014

ELE204 CIRCUIT ANALYSIS II, Undergraduate, 2014 - 2015, 2013 - 2014

ELE216 Electromagnetics I, Undergraduate, 2013 - 2014

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

- I. **Using Thin Films of Phase-Change Material for Active Tuning of Terahertz Waves Scattering on Dielectric Cylinders**  
Cakmak A. O., ÇOLAK İ., Serebryannikov A. E.  
Materials, vol.17, no.1, 2024 (SCI-Expanded)
- II. **An effective lithography training module adapting semianalytical calculation approaches**  
Cakmak A. O., ÇOLAK İ., Awadelkarim O. O.  
JOURNAL OF THE SOCIETY FOR INFORMATION DISPLAY, vol.29, no.11, pp.868-895, 2021 (SCI-Expanded)
- III. **Long term stability of 1.3 GHz high power RF amplifier**  
Karsli O., ÇOLAK İ.  
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.29, no.2, pp.673-686, 2021 (SCI-Expanded)
- IV. **Two types of single-beam deflection and asymmetric transmission in photonic structures without interface corrugations**  
Serebryannikov A. E., Colak E., Magath T., Özbay E.  
JOURNAL OF THE OPTICAL SOCIETY OF AMERICA A-OPTICS IMAGE SCIENCE AND VISION, vol.33, no.12, pp.2450-2458, 2016 (SCI-Expanded)
- V. **Multiple slow waves and relevant transverse transmission and confinement in chirped photonic crystals**  
Serebryannikov A. E., Cakmak A. O., ÇOLAK İ., Caglayan H., KURT H., ÖZBAY E.  
OPTICS EXPRESS, vol.22, no.18, pp.21806-21819, 2014 (SCI-Expanded)
- VI. **Theoretical and experimental investigations of asymmetric light transport in graded index photonic crystal waveguides**  
Giden I. H., Yilmaz D., Turduev M., Kurt H., ÇOLAK İ., Ozbay E.  
APPLIED PHYSICS LETTERS, vol.104, no.3, 2014 (SCI-Expanded)

- VII. **Experimental study of broadband unidirectional splitting in photonic crystal gratings with broken structural symmetry**  
ÇOLAK İ., Serebryannikov A. E., Cakmak A. O., ÖZBAY E.  
APPLIED PHYSICS LETTERS, vol.102, no.15, 2013 (SCI-Expanded)
- VIII. **Dispersion irrelevant wideband asymmetric transmission in dielectric photonic crystal gratings**  
Serebryannikov A. E., ÇOLAK İ., Cakmak A. O., ÖZBAY E.  
OPTICS LETTERS, vol.37, no.23, pp.4844-4846, 2012 (SCI-Expanded)
- IX. **Simultaneously opening transmission channels with negative and positive phase velocities for the stacked subwavelength apertures in fishnet metamaterials with hybrid unit lattices**  
Cakmak A. O., ÇOLAK İ., ÖZBAY E.  
JOURNAL OF NANOPHOTONICS, vol.6, 2012 (SCI-Expanded)
- X. **Characterization, slab-pair modeling and phase analysis of circular fishnet metamaterials**  
Ozturk Y., YILMAZ A. E., ÇOLAK İ., ÖZBAY E.  
PHOTONICS AND NANOSTRUCTURES-FUNDAMENTALS AND APPLICATIONS, vol.10, no.4, pp.624-631, 2012 (SCI-Expanded)
- XI. **Complementary chiral metamaterials with giant optical activity and negative refractive index**  
Li Z., Alici K. B., ÇOLAK İ., ÖZBAY E.  
APPLIED PHYSICS LETTERS, vol.98, no.16, 2011 (SCI-Expanded)
- XII. **Spatial filtering using dielectric photonic crystals at beam-type excitation**  
ÇOLAK İ., Cakmak A. O., Serebryannikov A. E., ÖZBAY E.  
JOURNAL OF APPLIED PHYSICS, vol.108, no.11, 2010 (SCI-Expanded)
- XIII. **Unidirectional transmission in photonic-crystal gratings at beam-type illumination**  
Cakmak A. O., ÇOLAK İ., Serebryannikov A. E., ÖZBAY E.  
OPTICS EXPRESS, vol.18, no.21, pp.22283-22298, 2010 (SCI-Expanded)
- XIV. **Chiral metamaterials with negative refractive index based on four "U" split ring resonators**  
Li Z., Zhao R., Koschny T., Kafesaki M., Alici K. B., ÇOLAK İ., Caglayan H., ÖZBAY E., Soukoulis C. M.  
APPLIED PHYSICS LETTERS, vol.97, no.8, 2010 (SCI-Expanded)
- XV. **Coupling effect between two adjacent chiral structure layers**  
Li Z., Caglayan H., ÇOLAK İ., Zhou J., Soukoulis C. M., ÖZBAY E.  
OPTICS EXPRESS, vol.18, no.6, pp.5375-5383, 2010 (SCI-Expanded)
- XVI. **Transmission enhancement through deep subwavelength apertures using connected split ring resonators**  
Ates D., Cakmak A. O., ÇOLAK İ., Zhao R., Soukoulis C. M., ÖZBAY E.  
OPTICS EXPRESS, vol.18, no.4, pp.3952-3966, 2010 (SCI-Expanded)
- XVII. **Enhanced transmission through a subwavelength aperture using metamaterials**  
Cakmak A. O., AYDIN K., ÇOLAK İ., Li Z., Bilotti F., Vegni L., ÖZBAY E.  
APPLIED PHYSICS LETTERS, vol.95, no.5, 2009 (SCI-Expanded)
- XVIII. **Frequency dependent steering with backward leaky waves via photonic crystal interface layer**  
ÇOLAK İ., Caglayan H., Cakmak A. O., Della Villa A., Capolino F., ÖZBAY E.  
OPTICS EXPRESS, vol.17, no.12, pp.9879-9890, 2009 (SCI-Expanded)
- XIX. **High efficiency of graded index photonic crystal as an input coupler**  
Cakmak A. O., ÇOLAK İ., Caglayan H., KURT H., ÖZBAY E.  
JOURNAL OF APPLIED PHYSICS, vol.105, no.10, 2009 (SCI-Expanded)
- XX. **The focusing effect of graded index photonic crystals**  
Kurt H., ÇOLAK İ., Cakmak O., Caglayan H., Ozbay E.  
APPLIED PHYSICS LETTERS, vol.93, no.17, 2008 (SCI-Expanded)
- XXI. **Enhanced transmission and directivity from metallic subwavelength apertures with nonuniform and nonperiodic grooves**  
Li Z., Caglayan H., ÇOLAK İ., Ozbay E.  
APPLIED PHYSICS LETTERS, vol.92, no.1, 2008 (SCI-Expanded)

## Articles Published in Other Journals

- I. **OPERATION TESTS of the 260 MHz 1500 W SOLID STATE RF AMPLIFIER at TARLA FACILITY**  
Karşlı Ö., ÇOLAK İ.  
Communications Faculty of Sciences University of Ankara Series A2-A3 Physical Sciences and Engineering, vol.61, no.2, pp.181-196, 2019 (Peer-Reviewed Journal)
- II. **FOCUSING, IMAGING AND FOURIER TRANSFORMING WITH A LARGE NUMERICAL APERTURE, DIELECTRIC FLAT PHOTONIC CRYSTAL LENS IN METAMATERIAL REGIME**  
ÇOLAK İ., ÇAKMAK A. Ö.  
Communications Faculty of Sciences University of Ankara Series A2-A3 Physical Sciences and Engineering, vol.61, no.1, pp.76-101, 2019 (Peer-Reviewed Journal)
- III. **Prostat Kanseri Olgularında Ga-68 PSMA PET Görüntülemenin Multiparametrik MR Görüntülemeye Katkısı**  
BAKIR B., ONAY A., ÇOLAK İ., USLU BEŞLİ R. L.  
Türkiye Klinikleri Nükleer Tıp, 2019 (Non Peer-Reviewed Journal)

## Refereed Congress / Symposium Publications in Proceedings

- I. **Pulsed Power Applications @TARLA**  
Çolak İ., Dokuyucu C., Karşlı Ö.  
48th International Nathiagali Summer College on Physics and Contemporary Needs, Islamabad, Pakistan, 17 - 19 July 2023
- II. **Beam Shaping and Reduced Waist in a Photonic Crystal Slab**  
ÇOLAK İ.  
The Photonics Workshop 2020, 8 - 12 March 2020
- III. **TWO DIFFERENT BEAM DEFLECTION MECHANISMS TOGETHER WITH UNIDIRECTIONALITY IN PHOTONIC STRUCTURES WITHOUT CORRUGATIONS UNDER OBLIQUE INCIDENCE**  
ÇOLAK İ., SEREBRYANNIKOV A. E., MAGATH T., ÖZBAY E.  
XXIII Transfrontier Meeting of Sensors and Biosensors, Barcelona Spain, 20 - 21 September 2018
- IV. **LOW-PASS, BAND-PASS AND BAND-STOP TYPE SPATIAL FILTERING IN A PHOTONICCRYSTAL**  
ÇOLAK İ., SEREBRYANNIKOV A. E., PETROV A., USIK P. V., ÖZBAY E.  
XXIII Transfrontier Meeting of Sensors and Biosensors, Barcelona Spain, 20 - 21 September 2018
- V. **UNIDIRECTIONAL AND BIDIRECTIONAL BEAM SPLITTING IN PHOTONICSTRUCTURES DUE TO DIFFRACTION WITH DEFECT LAYER REPLACINGINTERFACE CORRUGATIONS**  
ÇOLAK İ., SEREBRYANNIKOV A. E., USIK P. V., ÖZBAY E.  
11th Ibero-American Congresson Sensors, Barcelona Spain, 17 - 20 September 2018
- VI. **EXPLORING MODIFIED HERMITE-GAUSSIAN WAVES FOR PHASE-FRONT ENGINEERING IN A GRADED INDEX PHOTONIC CRYSTAL OPERATING OUT OF METAMATERIAL CLASS**  
ÇOLAK İ., ÇAKMAK A. Ö., KURT H., ÖZBAY E.  
11th Ibero-American Congresson Sensors, Barcelona Spain, 17 - 20 September 2018
- VII. **The Use of Photonic Crystals to Control the Electromagnetic Wave Propagation**  
ÇOLAK İ.  
International Conference on Semiconductors, Optoelectronics and Nanostructures, 20 - 21 August 2018
- VIII. **Multi-frequency Low-Pass, Band-Pass and Band-Stop Type Spatial Filtering in a Photonic Crystal**  
ÇOLAK İ., SEREBRYANNIKOV A. E., PETROV A., USIK P. V., ÖZBAY E.  
International Conference on Nanotechnology and Nanoengineering, 16 - 18 July 2018
- IX. **Multiple Slow Waves in a Simple Photonic Structure E Colak A E Serebryannikov A O Cakmak and E Ozbay NANONG2015 International Conference on Nanoscience Nanotechnology for Next Generation 2015 October 29 31 2015 Antalya Turkey**  
ÇOLAK İ., Serebryannikov A. E., Çakmak A. Ö., ÖZBAY E.

NANONG2015 (International Conference on Nanoscience&Nanotechnology for Next Generation 2015), October 29-31, 2015, Antalya, Turkey., 29 - 31 October 2015

- X. **Diffraction inspired unidirectional splitting in dielectric rod structures with broken symmetry** Evrim Colak Andriy Serebryannikov Atilla Ozgur Cakmak and Ekmel Ozbay ELECTROTECH 15 III International Electrical Electronic Engineering and Technologies Conference October 2 3 2015 Istanbul Turkey

ÇOLAK İ., Serebryannikov A., Çakmak A. Ö., ÖZBAY E.

ELECTROTECH '15, III. International Electrical & Electronic Engineering and Technologies Conference, October 2-3, 2015, Istanbul, Turkey., 2 - 03 October 2015

- XI. **Spatial Filters Based On EBG Structures With Anisotropic-Like Dispersion**

Serebryannikov A. E., Cakmak A. O., ÇOLAK İ., Ozbay E.

4th European Conference on Antennas and Propagation (EuCAP), Barcelona, Spain, 12 - 16 April 2010

- XII. **Photonic Crystal based Spatial Filtering**

ÇOLAK İ., Cakmak A. O., Serebryannikov A. E., Ozbay E.

22nd Annual Meeting of the IEEE-Photonics-Society, Belek Antalya, Turkey, 4 - 08 October 2009, pp.735-736

## Metrics

Publication: 36

Citation (WoS): 596

Citation (Scopus): 26

H-Index (WoS): 11

H-Index (Scopus): 3