CURRICULUM VITAE

Prof. Dr.AYŞE ÇİĞDEM ERÇELEBİ

 e-mail: ercelebi@metu.edu.tr

**UNIVERSITY EDUCATION:**

* Ph.D.1985 January Middle East Technical University, METU, Faculty of Arts and Sciences, Physics
* MSc. 1979 Middle East Technical University, METU, Faculty of Arts and Sciences, Physics
* B.S. 1976 Middle East Technical University, METU, Faculty of Arts and Sciences, Physics

 **ACADEMIC and PROFESSIONAL EXPERİENCE:**

* Prof. Dr : 1998- 2020 METU, Faculty of Arts and Sciences, Physics Department
* Assoc. Prof. Dr.: 1990-1998 METU, Faculty of Arts and Sciences, Physics Department
* Asist. Prof. Dr.: 1988-1990 METU, Faculty of Arts and Sciences, Physics Department
* Instructor (Dr.):  1985-1988 METU, Faculty of Arts and Sciences, Physics Department
* Instructor : 1982-1985 METU, Faculty of Arts and Sciences, Physics Department
* Research Asist.: 1976-1982 METU, Faculty of Arts and Sciences, Physics Department

ADMINISTRATIVE DUTIES:

* Vice President 2008-2016, METU

* Director of Central Research Laboratory 2004-2008 METU
* Advanced Material Characterization
* Molecular Biology- Biotechnology Centers
* Member of University Administrative Board 1998-2002 METU

* Member of Faculty Administrative Board 1997-1998 METU
* Assistant to Chairperson, Physics Department 1997-2000 METU

SCHOLARSHIPS:

* British Council Scholarship, Durham University Applied Physics Group, Durham/UK

 October-February 1989, September 1996

* Research Fellow ( around 1 month/year), ICTP, Trieste/ITALY; 1980,1981,1984,1985
* TÜBİTAK Scholarship; High School and University Education

**RESEARCH AREA/FIELD of INTERESTS:**

Condensed Matter Physics, Solid State Physics, Physics of Semiconductors, Micro/nano technology,

Thin Films

* Solar Cell Structures and Applications (Heterojunctions, Schootky Structures, ETA-Extremely Thin Absorber Layer Solar Cells).
* Deposition (by different growth techniques) and electrical, optical and structural characterization of II-VI semiconducting thin films (CdTe, CdS, InSe, CuIn(Ga)Se(S)) and optimization of material properties for the efficient solar cell applications.
* Production and study of optical, electrical and device properties of the thin film heterojunction solar cells.
* Application of a variety of experimental characterization techniques to thin film materials and device structures.

 **PhD THESIS SUPERVISED:**

 “MATERIAL AND DEVICE CHARACTERIZATION OF ZnInSe2 AND Cu0.5Ag0.5InSe2 THIN FILMS FOR PHOTOVOLTAIC APPLICATIONS”, METU, Physics Dept. (Co-supervisor), GÜLLÜ HASAN HÜSEYİN, (2016)

 “INVESTIGATION ON THE INCORPORATION OF QUANTUM DOT THIN FILM LAYERS IN THE ORGANIC AND INORGANIC SOLAR CELL STRUCTURES”, METU, Physics Dept.. CANDAN İDRİS, (2016)

 “FABRICATION AND INVESTIGATION OF EXTREMELY THIN CdTe ABSORBER LAYER SOLAR CELLS”, METU, Physics Dept., HOSSEİNİ AREZOO, (2016)

 “DESIGN OF HIGH-EFFICIENCY DYE-SENSITIZED NANOCRYSTALLINE SOLAR CELLS”, METU, Materials and Metallurgical Engineering Dept. (Co-supervisor), HALİL İBRAHİM YAVUZ, (2014)

 “PRODUCTION OF AMORPHOUS SILICON/P-TYPE CRYSTALLINE SILICON HETEROJUNCTION SOLAR CELLS BY SPUTTERING AND PECVD METHODS”, METU, Physics Dept. (Co-supervisor), ZEYNEP DENİZ EYGİ (2011)

 “INVESTIGATION OF InSe THIN FILM BASED DEVICES”, METU, Physics Dept., KORAY YILMAZ (2004)

 “STRUCTURAL ELECTRICAL AND PHOTO-HALL CHARACTERIZATION OF InSe:Cd AND InSe THIN FILMS”, METU, Physics Dept. (Co-supervisor), ATEF FAYEZ QUASRAWI (2000)

 “PREPARATION AND ELECTRICAL, STRUCTURAL-OPTICAL CHARACTERIZATION OF InSe THIN FILMS”, METU, Physics Dept., MEHMET PARLAK (1997)

 “INVESTIGATION OF THIN FILM n-CdS/p-CdTe HETEROJUNCTIONS”, METU, Physics Dept., HABİBE MAMIKOĞLU (1994)

 **MSc. THESIS SUPERVISED:**

 “CHARACTERIZATION AND CONTACT RESISTIVITY STUDIES OF ITO THIN FILMS FOR USE IN SILICON HETEROJUNCTION SOLAR CELLS”, METU. Physics Dept., SEÇİL GÜLER (2020)

 “GROWTH AND CHARACTERIZATION OF CuIn1-xGaxSe2(CIGS) THIN FILMS FOR SOLAR CELL STRUCTURES”, METU, Physics Dept., İDRİS CANDAN (2009)

 “CHARACTERIZATION OF CDS THIN FILMS AND SCHOTTKY BARRIER DIODES”, METU, Physics Dept., SIBEL KORKMAZ (2005)

 “CHARACTERIZATION OF VAKUUM DEPOSITED INDIUM SELENIDE AND SCHOTTKY BARRIER DIODES”, METU, Physics Dept., ÖZLEM PEHLİVAN (2001)

 “ELECTRICAL AND PHOTOVOLTAIC PROPERTIES OF n-CdS:In/p-Si HETEROJUNCTION DEVICES”, METU, Physics Dept., MURAT BAYHAN (1987)

PUBLICATIONS

INTERNATIONAL REFEREED JOURNALS (SCI Indexed)

HH GULLU, O SURUCU, M TERLEMEZOGLU, M ISIK, C ERCELEBI, NM GASANLY (2020).

Temperature-dependent material characterization of CuZnSe2 thin films Thin Solid Films, 137941

A HOSSEINI, HH GÜLLÜ, E COSKUN, M PARLAK, C ERCELEBI (2019). Fabrication and Characterization of TIO2 Thin Film for Device Applications. Surface Review and Letters 26 (06), 1850205.

M TERLEMEZOGLU, ÖB SÜRÜCÜ, C DOGRU, HH GÜLLÜ, EH CIFTPINAR, Ç ERÇELEBI, ..(2019). CZTSSe thin films fabricated by single step deposition for superstrate solar cell applications. Journal of Materials Science: Materials in Electronics 30 (12), 11301-11306

İ CANDAN, M PARLAK, Ç ERÇELEBI (2019). PbS quantum dot enhanced p-CIGS/n-Si heterojunction diode. Journal of Materials Science: Materials in Electronics 30 (3), 127-2135

M TERLEMEZOGLU, ÖB SÜRÜCÜ, T ÇOLAKOĞLU, MK ABAK, HH GÜLLÜ, Ç ERÇELEBI,(2018)  Construction of self-assembled vertical nanoflakes on CZTSSe thin films. Materials Research Express 6 (2), 026421

A HOSSEINI, P KAR, LH HSIEH, BD WILTSHIRE, A MOHAMMADPOUR,… Ç ERÇELEBİ (2017), Radial Heterojunction Solar Cell Consisting of n-Type Rutile Nanowire Arrays Infiltrated by p-Type CdTe. Journal of Nanoscience and Nanotechnology 17 (7), 5119-5123

COŞKUN EMRE, GÜLLÜ HASAN HÜSEYİN, PARLAK MEHMET, ERÇELEBİ AYŞE ÇİĞDEM (2015). Study on the Structural and Electrical Properties of Sequentially Deposited Ag Ga In Te Thin Films. Journal of Low Temperature Physics, 178(3-4), 162-173.

COŞKUN EMRE, GÜLLÜ HASAN HÜSEYİN, CANDAN İDRİS, PARLAK MEHMET, ERÇELEBİ AYŞE ÇİĞDEM, BAYRAKLI ÖZGE (2015). Device behavior of an In p Ag Ga In Te2 n Si Ag heterojunction diode. Materials Science in Semiconductor Processing, 34, 138-145.

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HOSSEİNİ AREZOO, İÇLİ KC, ÖZENBAŞ AHMET MACİT, ERÇELEBİ AYŞE ÇİĞDEM (2014). Fabrication and Characterization of Spin coated TiO2 Films. Energy Procedia, 60, 191-198.

KALELİ MURAT, PARLAK MEHMET, ERÇELEBİ AYŞE ÇİĞDEM (2011). Studies on device properties of an n AgIn5Se8 p Si heterojunction diode. Semiconductor Science and Technology, 26(10),

YILMAZ KORAY, PARLAK MEHMET, ERÇELEBİ AYŞE ÇİĞDEM (2007). Investigation of photovoltaic properties of amorphous InSe thin film based Schottky devices. Semiconductor Science and Technology, 22(12), 1268-1271.

YILMAZ KORAY, PARLAK MEHMET, ERÇELEBİ AYŞE ÇİĞDEM (2004). Space charge limited current analysis in amorphous InSe thin films. Journal of Materials Science: Materials in Electronics, 15(4), 225-229.

PARLAK MEHMET, QASRAWİ ATEF, ERÇELEBİ AYŞE ÇİĞDEM (2003). Growth electrical and structural characterization of beta GaSe thin films. Journal of Materials Science, 38(7), 1507-1511.

BOZKURT AYHAN, PARLAK MEHMET, ERÇELEBİ AYŞE ÇİĞDEM, TOPPARE LEVENT KAMİL (2002). Conduction mechanism in H type polysiloxane polypyrrole block copolymers. Journal of Applied Polymer Science, 85(1), 52-56.

QASRAWI ATEF FAYEZ HASAN, PARLAK MEHMET, ERÇELEBİ AYŞE ÇİĞDEM, GÜNAL İBRAHİM (2001). Characterization of p-In2Se3 thin films. Journal of Materıals Scıence-Materıals ın Electronıcs , 12(8), 473-476.

QASRAWI ATEF FAYEZ HASAN, GÜNAL İBRAHİM, ERÇELEBİ AYŞE ÇİĞDEM (2000). Structural and electrical properties of Cd doped InSe thin films. Crystal Research and Technology , 35(9), 1077-1086.

PARLAK MEHMET, ERÇELEBİ AYŞE ÇİĞDEM (1999). The effect of substrate and post annealing temperature on the electrical properties of polycrystalline InSe thin films. Journal of Materials Science: Materials in Electronics, 10(4), 313-319.

PARLAK MEHMET, ERÇELEBİ AYŞE ÇİĞDEM, GÜNAL İBRAHİM, ÖZKAN HÜSNÜ, GASANLY NİZAMİ M (1998). Structural and electrical characterization of Ag3Ga5Te9 and Ag3In5Se9 crystals. CRYSTAL RESEARCH AND TECHNOLOGY, 33(6), 923-928

PARLAK MEHMET, ERÇELEBİ AYŞE ÇİĞDEM (1998). The effect of substrate and post annealing temperature on the structural and optical properties of polycrystalline InSe thin films. Thin Solid Films, 322(1-2), 334-339.

BAYHAN HABİBE, ERÇELEBİ AYŞE ÇİĞDEM (1997). Electrical characterization of vacuum deposited n CdS p CdTe heterojunction devices. Semiconductor Science and Technology, 12(5), 600-608.

BOZKURT AYHAN, ERÇELEBİ AYŞE ÇİĞDEM, TOPPARE LEVENT KAMİL (1997). Electronic properties of polypyrrole polyindene composite metal junctions. Synthetic Metals, 87(3), 219-223.

PARLAK MEHMET, ERÇELEBİ AYŞE ÇİĞDEM, GÜNAL İBRAHİM, ÖZKAN HÜSNÜ, GASANLY NIZAMI, ÇULFAZ ALİ (1997). Crystal Data Electrical Resisitivity and Mobility in Cu3In5Se9 and Cu3In5Te9 Single Crystals. Crystal Research and Technology, 32(3), 395-400.

PARLAK MEHMET, ERÇELEBİ AYŞE ÇİĞDEM, GÜNAL İBRAHİM, ÖZKAN HÜSNÜ (1996). Anisotropy of Electrical Resistivity and Hole Mobility in InTe Single Crystals. Crystal Research and Technology, 31(5), 673-678.

PARLAK MEHMET, ERÇELEBİ AYŞE ÇİĞDEM, GÜNAL İBRAHİM (1995). Growth and characterization of polycrystalline InSe thin films. Thin Solid Films, 258(1-2), 86-90.

AW BRİNKMAN, HM AL ALLAK, GR AWAN, PD BROWN, K DUROSE, C ERCELEBİ(1992). Epitaxial CdTe-based solar cells. International Journal of Solar Energy 12 (1-4), 233-245

ERÇELEBİ AYŞE ÇİĞDEM, BRINKMAN AW, FURLONG TS, WOODS JOHN (1990). Current transport mechanisms in epitaxial CdS CdTe heterojunctions. Journal of Crystal Growth, 101(1-4), 162-166.

ERÇELEBİ AYŞE ÇİĞDEM, BAYHAN MURAT (1989). Electrical and photovoltaic characterization of n CdS:In/ Si heterojunction devices. Solar Cells, 26(4), 253-262.

**NATIONAL REFEREED JOURNALS**

BAYHAN H, ERÇELEBI Ç Effects of Post Deposition Processing on Vacuum Evaporated CdTe

Thin Films and CdS/CdTe Heterojunctions, Turkish J. Phys. 22 (1998) 441

MAMIKOĞLU H, ERÇELEBI Ç AND ÖKTÜ Ö Preparation and Characterization of CdTe Thin Films, Schottky Diodes and Heterojunction Devices Turkish J. Phys. 16 (1992) 289

GÜNAL I, ERÇELEBI Ç Electrical Properties of Bismuth Doped CdS Films Turkish J. Phys. 15 (1991) 18

ERÇELEBI Ç Capacitance-Voltage and Deep Level Transient Spectroscopy Studies in PX-CdS/SX-CdTe Heterojunction Devices Turkish J. Phys 15 (1991) 10

**CONFERENCE PROCEEDINGS (INTERNATIONAL)**

CANDAN İDRİS, ERÇELEBİ AYŞE ÇİĞDEM (2017), PbS Quantum Dots Layer Effect on Ag/n-Si/p-CIGS/PbS QDs/In Heterojunction Diode. 2017 MRS (Materials Research Society) Fall Meeting and Exhibition

HOSSEİNİ AREZOO,GÜLLÜ HASAN HÜSEYİN,PARLAK MEHMET,TURAN RAŞİT,ERÇELEBİ AYŞE ÇİĞDEM (2016). Study of the CdTe based extremely thin absorber layer solar cell. Science and Applications of Thin Films, Conference & Exhibition

HOSSEİNİ AREZOO, GÜLLÜ HASAN HÜSEYİN, BAYRAKLI OZGE, PARLAK MEHMET, TURAN RAŞİT, ERÇELEBİ AYŞE ÇİĞDEM (2016). Fabrication and Investigation of Extremely Thin CdTe Absorber Layer Solar Cells. 2nd International Congress on the World of Technology and Advanced Materials

GÜLLÜ HASAN HÜSEYİN, COŞKUN EMRE, BAYRAKLI ÖZGE, PARLAK MEHMET, ERÇELEBİ AYŞE ÇİĞDEM (2015). Investigation of Electrical Properties of Cu Ag In Se Thin Films Deposited by Thermal Evaporation Method. EU PVSEC 2015 Hamburg, September 14 -18

GÜLLÜ HASAN HÜSEYİN, BAYRAKLI ÖZGE, PARLAK MEHMET, ERÇELEBİ AYŞE ÇİĞDEM (2015). Preparation and Characterization of CuZnSe2 Thin Films Deposited by Physical Vapor Deposition

Technique. 3rd Turkish Solar Electricity Conference and Exhibition

İ. CANDAN, H. H. GÜLLÜ, Ö. BAYRAKLI, M. PARLAK, AND Ç. ERÇELEBİ, Effect of In/Ga Ratio on

The Properties of CuIn1-xGaxSe2 (CIGS) Thin Films SOLARTR-2 2012 Conference, Antalya, 07-09 November 2012

İ. CANDAN, M. PARLAK AND Ç. ERÇELEBİ, Characterization of CIGS Thin Films Deposited with Double

 Sources e-beam Evaporation by the Three-stage Process , E-MRS 2010 Spring Meeting, Strasbourg (France), 2010

M. KALELİ, T. ÇOLAKOĞLU, H. KARAAĞAÇ, M. PARLAK, Ç. ERÇELEBİ, Device Characterization of

n-Si/p-AgInSe2 Heterostructure, SolarTR1, Ankara (Turkey), 2010

H. KARAAGAC, M. PARLAK AND Ç. ERÇELEBİ, Characterization of Sputterring Deposited AgGaSe2

Thin Films, NANO-TR6 2010 Conference (6th Nanoscience and Nanotechnology. Conf.), 2010

Z.D.EYGİ, U.BOSTANCI, R.TURAN, Ç.ERÇELEBİ, Optimization of Hydrogenated Amorphous Silicon (a-Si) Thin Film Deposited by RF Magnetron Deposited by Magnetron Sputtering for A-Si/c-Si Photovoltaic

Applications, Proceeding of 24th European Photovoltaic Solar Energy Conference, 21-25 September 2009, Hamburg, Germany

M. KALELİ, M. PARLAK, H. KARAAĞAÇ, Ç. ERÇELEBİ, I. CANDAN, The Device Behaviors of p-Si/n-(Ag-In-Se) Junction, E-MRS 2009 Spring Meeting, Strasbourg (France), 8 –12 June 2009

M. KALELİ, M. PARLAK, T. ÇOLAKOĞLU, H. KARAAĞAÇ, Ç. ERÇELEBİ, Effects of Post Annealing on the Device Behaviours of p-Si/n-(Ag-In-Se) Junction, E-MRS 2008 Spring Meeting, Strasbourg, France 2008

.

M. KALELİ, T. ÇOLAKOĞLU, M. PARLAK, Ç. ERÇELEBİ, Production and Characterization of (Ag-In-Se) Thin Film and Device Behaviors of Al/p-Si/n-(Ag-In-Se)/In Heterostructure. VI Yenilenebilir Enerjiler Sempozyumu, Ege Üniversitesi Güneş Enerjisi Enstitüsü 2008

T. ÇOLAKOĞLU, M. PARLAK, Ç. ERÇELEBİ, M. KALELİ, M.Ş. HUŞ, Effect of Annealing Temperature on the Surface Dynamics and Structural, Optical and Electrical Characteristics of Polycrystalline Electron Beam Evaporated Ag-In-Se Thin Films. Nano TR-III Bilkent University, 2007

T. ÇOLAKOĞLU, M. PARLAK, M. KALELİ, H. KARAAĞAÇ, Ç.ERÇELEBİ, Structural and optical properties of Polycrystalline Ag-In-Se Thin films Deposited by Thermal Evaporation. E-MRS 2008 Meeting, Strasburg, France 2008

T. ÇOLAKOĞLU, M. PARLAK, Ç. ERÇELEBİ, M. KALELİ, M.Ş. HUŞ, Structural Properties of e-beam

 Evaporated Polycrystalline Ag-In-Se Thin Films. E-MRS Spring Meeting 28-May-1 June 2007

 Strasbourg 2007.

T. ÇOLAKOĞLU, M. KALELİ, M. PARLAK, H. KARAAĞAÇ, Ç.ERÇELEBİ, The Influence of Annealing

Temperature on the Structural Optical and Electrical Properties of Polycrystalline AgIn5Se8 Thin Films and Device Applications. NANOMAT 2008 International Workshop on Advanced Materials and Devices for Photovoltaic Applications 2008

M.PARLAK, Ç. ERÇELEBİ,I. GÜNAL, H. OZKAN, N. GASANLY, Low Temperature Electrical Resistivity

and Mobility in Cu3I*n5Se9 and Ag3Ga5Te9 Single Crystals “ICTMC 11”* , 1997

ERÇELEBİ Ç, BAYHAN M Current Transport Mechanism of n-CdS:Inp-Si Heterojunction Solar Cells

8th Miami Conference on Alternative Energy Sources, Miami USA p.258 December 1987

**CONFERENCE PROCEEDINGS (NATIONAL)**

AREZOO HOSSEINI, PARLAK MEHMET, GÜLLÜ HASAN HÜSEYİN, TURAN RAŞİT, ERÇELEBİ AYŞE ÇİĞDEM (2015). Fabrication and Characterization of TiO2 CdTe/ZnSnTe ETA Solar Cell, 3rd Turkish Solar Electricity Conference and Exhibition

GÜLLÜ HASAN HÜSEYİN, BAYRAKLI ÖZGE, PARLAK MEHMET, ERÇELEBİ AYŞE ÇİĞDEM (2015). Preparation and characterization of CuZnSe2 Thin Films Deposited by Physical Vapor Deposition Technique. 3rd Turkish Solar Electricity Conference and Exhibition

I.CANDAN, H.H. GÜLLÜ, M. PARLAK, Ç. ERÇELEBİ, CIGS İnce filmlerde Isıl İşlemin Yarıiletkenlere olan Etkisi.Yogun Madde Fiziği İzmir Toplantısı, 2012.

H. H. GÜLLÜ, İ. CANDAN, M. PARLAK VE Ç. ERÇELEBİ, Cu-zengin CAIS İnce Filmlerinin Yapısal, Elektriksel ve Optik Özelliklerinin İncelenmesi 18. Yoğun Madde Fiziği - Ankara Toplantısı 2011

İ. CANDAN, H. H. GÜLLÜ, M. PARLAK VE Ç. ERÇELEBİ, CIGS Yarıiletken İnce Filmlerinde Bakır Oranının Yapı, Elektrik ve Optik Özelliklere Etkisi. "18. Yoğun Madde Fiziği - Ankara Toplantısı", 18, 2011

İ. CANDAN, M. PARLAK VE Ç. ERÇELEBİ, CIGS Filmlerin Saçtırmalı Kaplama Yöntemiyle Üç Aşamada

Üretilmesi ve Karakterizasyonu "17. Yoğun Madde Fiziği - Ankara Toplantısı", 2010

 İ. CANDAN, M. PARLAK VE Ç. ERÇELEBİ, Isısal Buharlaştırılma Tekniği Kullanılarak Üretilen CIGS İnce Filmlerin Karakterizasyonu . "16. Yoğun Madde Fiziği - Ankara Toplantısı", 1, 2009

M. KALELİ, T. ÇOLAKOĞLU, M. PARLAK, Ç. ERÇELEBİ, Production and Characterization of (Ag-In-Se)

Thin Film and Device Behaviors of Al/p-Si/n-(Ag-In-Se)/In Heterostructure.VI Yenilenebilir Enerjiler Sempozyumu,Ege Üniversitesi Güneş Enerjisi Enstitüsü 2008

M. KALELİ, T. ÇOLAKOĞLU, M. PARLAK, Ç. ERÇELEBİ, n-(Ag-In-Se)/p-Si Heteroyapılarında tavlamanın

 etkisi.14. Yoğun Madde Fiziği Ankara Toplantısı 2007

K.YILMAZ, M. PARLAK, Ç. ERÇELEBİ Investigation of InSe Based Devices TFD 24th Fizik Kongresi,

Muğla Üniversitesi, 2005

BAYHAN M, ERÇELEBİ Ç Photovoltaic Properties of n-CdS/p-Si Heterojunction Devices Türk Fizik Derneği, 8. Fizik Kongresi, Ankara, Eylül 1986

**PROJECTS CONDUCTED**

SiC ve Metal Oksit Filmler Kullanılarak Yeni Nesil Kristal Si Heteroeklem (SHJ) Güneş Hücrelerinin Geliştirilmesi (SIMOX), (Researcher), TUBİTAK, 6/15/2017, - Still continues (International)

Establishment of the Center for Solar Energy Research and Applications (GÜNAM) First Phase, (Researcher), Ministry of Development of Turkey,1/1/2009 - 31/12/2012.(National)

GÜNAM 2. Phase : Creation of Global Excellence Center with Industry University Collaboration (Researcher), Ministry of Development of Turkey, 1/1/ 2015 - (National)

METU-CENTER on Nanotechnology nanobiotechnology; aiming at increasing the research capacity of METU in Turkey (one of the coordinators), EU FP6 SSA Project-017125, 2005-2208 (International)

Material Characterization of Layered CdSexTe1-x (CST) Semiconducting Thin Films Deposited by Thermal Evaporation Technique (Researcher), TÜBİTAK 15/12/2018-15/06/2020 (National)

Production and Investigation of Extremely Thin Absorber Layer Solar Cells (Researcher), TÜBİTAK

15/06/2014 - 15/06/2015 (National)

Deposition and Characterization of ZnSnS2 Thin Films (Researcher), SRP, METU, 01/01/2015 - 31/12/2015 (National)

Deposition of Cu2ZnSnSe4 thin Films by Physical Vapor Deposition and Characterization (Researcher), SRP-METU, 11/01/2016 - 31/12/2016 (National)

Investigation of AgInSe2 ve AgGaSe2 Thin Films Growth by Thermal Evaporation and Sputtering Techniques and Production of n-CdS/p- AgGaSe2, p-Si/n- AgInSe2 ve n-CdS/p- AgInSe2 Heterojunction Solar Cells(Researcher), TÜBİTAK 15/06/2008 - 15/06/2011 (National)

Investigation and Optimization of GalnP/ InGaAs/ GaAS MODFET Structures (Researcher), TÜBİTAK, 15/08/1995 - 11/10/1998 (National)

TUD – METU Research and Education Network on Nanomaterials and Nanotechnology for Renewable Sources (Researcher), TÜBİTAK, 15/06/2008 - 15/06/2011(International)

Electrochemical Synthesis and Characterization of Electrical and Optical Performances of CdS/CdTe

Hetero Nanostructures (Researcher),TÜBİTAK 01/10/2007 - 01/04/2010 (National)

Production and Characterization of InSe Thin Films and Thin Film Devices (Coordinator), TÜBİTAK, 01/03/1996 - 01/03/1998 (National)

Physical Properties of Binary and Ternary Compounds with High Anisotropy (Researcher), TUBİTAK, 01/10/1993 - 02/04/1995 (National)

**COURSES GIVEN:**

* Phys 105–106 General Physics I–II
* Phys 111-112 Physics I-II
* Phys 222 Optics and Waves Laboratory
* Phys 251-252 Properties of Matter I-II (for EE)
* Phys 400 Graduation Project
* Phys 411-412 Solid State Laboratory I-II
* Phys 415–416 Projects in Physics I–II
* Phys 515–516 Special Topics in Solid State Physics I–II