

## **Prof. MUSTAFA ANUTGAN**

### **Personal Information**

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### **Education Information**

Doctorate, Orta Doğu Teknik Üniversitesi, Ulaştırma Mühendisliği, Fizik (Dr), Turkey 2007 - 2010

Post Graduate, Orta Doğu Teknik Üniversitesi, Ulaştırma Mühendisliği, Fizik (Yl) (Tezli), Turkey 2005 - 2007

Under Graduate, Orta Doğu Teknik Üniversitesi, Fen-Edebiyat Fakültesi, Fizik, Turkey 2002 - 2005

### **Foreign Languages**

English, C1 Advanced

### **Certificates, Courses and Trainings**

Other, Girişimcilik Eğitimi - Silikon Vadisi - San Francisco, ODTÜ Teknokent, 2016

### **Dissertations**

Doctorate, Nanocrystal silicon based visible light emitting pin diodes, Orta Doğu Teknik Üniversitesi, Ulaştırma Mühendisliği, Fizik (Dr), 2010

Post Graduate, Investigation of plasma deposited boron nitride thin films, Orta Doğu Teknik Üniversitesi, Ulaştırma Mühendisliği, Fizik (Yl) (Tezli), 2007

### **Research Areas**

Physics, Intensive Article 2: Electronic Structure, Electric, Magnetic and Optical Properties, Electrical properties of electronic structures, interfaces, thin films and low-dimensional structures, Natural Sciences

### **Academic Titles / Tasks**

Professor, Karabük Üniversitesi, Teknoloji Fakültesi, Mekatronik Mühendisliği, 2019 - Continues

Associate Professor, Karabük Üniversitesi, Teknoloji Fakültesi, Mekatronik Mühendisliği, 2015 - 2019

Assistant Professor, Karabük Üniversitesi, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, 2011 - 2015

Research Assistant, Orta Doğu Teknik Üniversitesi, Fen-Edebiyat Fakültesi, Fizik, 2005 - 2010

### **Professional Experience**

Deputy Head of Department, Karabük Üniversitesi, Teknoloji Fakültesi, Mekatronik Mühendisliği Bölümü, 2017 -

Continues

Deputy Head of Department, Karabük Üniversitesi, Teknoloji Fakültesi, Mekatronik Mühendisliği Bölümü, 2015 - 2016

## Courses

Mekatronik Proje Uygulaması, Under Graduate, 2016 - 2017

Bilgisayar Destekli Mühendislik Matematği, Under Graduate, 2016 - 2017

## Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

- I. **SEM, EDX spectroscopy and real-time optical microscopy of electroformed silicon nitride-based light emitting memory device**  
ANUTGAN M., ANUTGAN T., ATILGAN İ.  
EPJ Applied Physics, vol.89, 2020 (Journal Indexed in SCI Expanded)
- II. **Dual-mechanism modelling of instability in nanocrystalline silicon thin film transistors under prolonged gate-bias stress**  
ANUTGAN T., ANUTGAN M., ATILGAN İ.  
THIN SOLID FILMS, vol.651, pp.145-150, 2018 (Journal Indexed in SCI)
- III. **ANALYTICAL SOLITARY WAVE SOLUTIONS FOR THE NONLINEAR ANALOGUES OF THE BOUSSINESQ AND SIXTH-ORDER MODIFIED BOUSSINESQ EQUATIONS**  
Amirov Ş., ANUTGAN M.  
JOURNAL OF APPLIED ANALYSIS AND COMPUTATION, vol.7, pp.1613-1623, 2017 (Journal Indexed in SCI)
- IV. **Electroformed silicon nitride based light emitting memory device**  
ANUTGAN T., ANUTGAN M., ATILGAN İ., Katircioglu B.  
APPLIED PHYSICS LETTERS, vol.111, 2017 (Journal Indexed in SCI)
- V. **Optimum Operating Conditions of (PbxX1-x)( ZryTizY1-y-z) Piezoelectric Transducer for Vibrational Energy Harvesting Applications**  
DEMİR F., ANUTGAN M.  
SHOCK AND VIBRATION, 2016 (Journal Indexed in SCI)
- VI. **Structural analysis of hydrogenated nanocrystalline silicon thin films as a function of substrate temperature during deposition**  
ANUTGAN M., Uysal S., ANUTGAN T.  
EUROPEAN PHYSICAL JOURNAL-APPLIED PHYSICS, vol.65, 2014 (Journal Indexed in SCI)
- VII. **Electroforming of Amorphous Silicon Nitride Heterojunction pin Visible Light Emitter**  
ANUTGAN M., ANUTGAN T., ATILGAN İ., Katircioglu B.  
IEEE TRANSACTIONS ON ELECTRON DEVICES, vol.58, pp.2537-2543, 2011 (Journal Indexed in SCI)
- VIII. **Photoluminescence analyses of hydrogenated amorphous silicon nitride thin films**  
ANUTGAN M., ANUTGAN T., ATILGAN İ., Katircioglu B.  
JOURNAL OF LUMINESCENCE, vol.131, pp.1305-1311, 2011 (Journal Indexed in SCI)
- IX. **Capacitance analyses of hydrogenated nanocrystalline silicon based thin film transistor**  
ANUTGAN T., ANUTGAN M., Atilgan I., Katircioglu B.  
THIN SOLID FILMS, vol.519, pp.3914-3921, 2011 (Journal Indexed in SCI)
- X. **Influence of the nitrogen flow rate on the order and structure of PECVD boron nitride thin films**  
Anutgan M., Anutgan T., Ozkol E., Atilgan I., Katircioglu B.  
Journal of Non-Crystalline Solids, vol.355, pp.1622-1629, 2009 (Journal Indexed in SCI Expanded)
- XI. **Electrical transport mechanism in boron nitride thin film**  
ÖZDEMİR O., Anutgan M., Aliyeva-Anutgan T., Atilgan I., Katircioglu B.  
Journal of Non-Crystalline Solids, vol.355, pp.851-859, 2009 (Journal Indexed in SCI Expanded)
- XII. **Annealing improvement on the localized states of plasma grown boron nitride film assessed through**

#### **admittance measurements**

ÖZDEMİR O., Anutgan M., Aliyeva-Anutgan T., Atilgan I., Katircioğlu B.

Journal of Alloys and Compounds, vol.475, pp.794-803, 2009 (Journal Indexed in SCI Expanded)

#### **XIII. Instability phenomenon originated from the disordered layer of the plasma-deposited BN film/c-Si interface assessed through the MIS structure by admittance measurement**

ÖZDEMİR O., Anutgan M., Aliyeva-Anutgan T., Atilgan I., Katirciolu B.

Semiconductor Science and Technology, vol.23, 2008 (Journal Indexed in SCI Expanded)

### **Articles Published in Other Journals**

#### **I. Boundary value problem for the nonlinear analogues of the Boussinesq equation: Numerical solution and its stability**

AMİROV Ş., ANUTGAN M.

New Trends in Mathematical Science, vol.3, pp.245-252, 2017 (Refereed Journals of Other Institutions)

#### **II. MINIATURIZED MODEL OF A MACRO FIBER COMPOSITE PIEZOELECTRIC TRANSDUCER BASED WIND TUNNEL AND ITS OPTIMIZATION FOR ENERGY HARVESTING**

DEMİR F., ANUTGAN M.

International Journal of Energy Applications and Technologies, 2017 (Other Refereed National Journals)

### **Refereed Congress / Symposium Publications in Proceedings**

#### **I. Electroformed silicon nitride-based light emitting memory device investigated by SEM, EDX and real-time optical microscopy analyses**

ANUTGAN M., ANUTGAN T., ATILGAN İ.

ICANS28 2019, 4 - 09 August 2019

#### **II. Transmission Electron Microscope Analysis of PECVD Grown Electroformed Silicon Nitride-Based Light Emitting Diode**

ANUTGAN T., ANUTGAN M., ATILGAN İ.

ICANS 28 2019, 4 - 09 August 2019

#### **III. TERS KİNEMATİK ANALİZİN YAPAY SİNİR AĞLARI İLE SİMÜLASYONU**

YILDIRIM M. Y. , ANUTGAN M.

ANADOLU I. ULUSLARARASI MULTİDİSİPLİNER ÇALIŞMALAR KONFERANSI, Diyarbakır, Turkey, 28 - 29 December 2018, pp.407-411

#### **IV. STEREO GÖRME VE 3 EKSENLİ ROBOT KOL KULLANILARAK NESNE SINIFLANDIRMA**

YILDIRIM M. Y. , ANUTGAN M.

ANADOLU I. ULUSLARARASI MULTİDİSİPLİNER ÇALIŞMALAR KONFERANSI, Diyarbakır, Turkey, 28 - 29 December 2018, pp.412-418

#### **V. Frequency-dependent error of forward bias capacitance spectroscopy in the density of states calculation of semiconductor diodes**

ATILGAN İ., ANUTGAN M., ANUTGAN T.

International Conference on Science, Technology, Engineering and Management (ICSTEM), 16 - 17 December 2017

#### **VI. Analytical solitary wave solutions for the Boussinesq equation containing nonlinearity in the time-derivative term**

AMİROV Ş., ANUTGAN M.

International Conference on Applied Physics and Mathematics (ICAPM), 8 - 09 October 2017

#### **VII. Temporary sub-band transport level in nanocrystalline silicon nitride light emitting memory device**

ANUTGAN M., ANUTGAN T., ATILGAN İ.

27th International Conference on Amorphous and Nanocrystalline Semiconductors (ICANS 27), 21 - 25 August 2017

- VIII. **Two-stage instability mechanism in nanocrystalline silicon TFTs under prolonged gate-bias stress**  
ANUTGAN T., ANUTGAN M., ATILGAN İ.  
27th International Conference on Amorphous and Nanocrystalline Semiconductors (ICANS 27), 21 - 25 August 2017
- IX. **Miniaturized Model of a Macro Fiber Composite Piezoelectric Transducer Based Wind Tunnel and Its Optimization for Energy Harvesting**  
DEMİR F., ANUTGAN M.  
4th International Conference on Advanced Technology & Sciences (ICAT'Rome), 23 - 25 November 2016
- X. **Comparison of negative capacitance phenomenon in ordinary amorphous and electroformed nanocrystalline silicon based LEDs**  
ANUTGAN M., ANUTGAN T., ATILGAN İ.  
Applied Nanotechnology and Nanoscience International Conference 2016, 9 - 11 November 2016
- XI. **Memory effect in electroformed nanocrystal silicon nitride based thin film LED**  
ANUTGAN T., ANUTGAN M., ATILGAN İ.  
Applied Nanotechnology and Nanoscience International Conference 2016, 9 - 11 November 2016
- XII. **Effects of the Wind Speed and the Material Emplacement on the Output Signal of PZT Piezoelectric Energy Harvester**  
DEMİR F., ANUTGAN M.  
6th International Advances in Applied Physics and Materials Science Congress & Exhibition, 1 - 03 June 2016
- XIII. **Estimation of Glucose Concentration in Solution Using Near Infrared Spectroscopy and Artificial Neural Network**  
Gulderen A., ANUTGAN T., ANUTGAN M.  
24th Signal Processing and Communication Application Conference (SIU), Zonguldak, Turkey, 16 - 19 May 2016, pp.1197-1200
- XIV. **Hidrojenlenmiş Nanokristal Silisyum Tabanlı İnce Film Transistörün Sığa Voltaj Ölçümleriyle İncelenmesi**  
ANUTGAN T., ANUTGAN M., ATILGAN İ., katırcıoğlu b.  
17. Yoğun Madde Fiziği Ankara Toplantısı, Turkey, 05 November 2010, pp.16
- XV. **Charging dynamics of MOS capacitors containing PECVD grown germanium nanocrystals**  
DANA A., ergun o., ANUTGAN M., ANUTGAN T., AYDINLI A., TURAN R.  
SEMINANO 2005, 10 - 12 September 2005, pp.197-200

## Supported Projects

ANUTGAN M., YILDIRIM M. Y. , Project Supported by Higher Education Institutions, GERÇEK ZAMANLI GÖRÜNTÜ İŞLEME TEMELLİ AL - BIRAK YAPABİLEN ENDÜSTRİYEL ROBOT KOL, 2018 - 2019

ANUTGAN M., Project Supported by Higher Education Institutions, Temporary sub-band transport level in nanocrystalline silicon nitride light emitting memory device, 2017 - 2017

ANUTGAN M., Project Supported by Higher Education Institutions, Lahmacun Kıymasını Hamura Yedirme İşlemini Yapan Makina Üretimi, 2017 - 2017

ANUTGAN M., Project Supported by Higher Education Institutions, Gündüz / Gece Nesne Takipli Güvenlik Sistemi, 2017 - 2017

ANUTGAN M., Project Supported by Higher Education Institutions, Taşınabilir Maske Hizalayıcı Üretimi, 2017 - 2017

ANUTGAN M., Project Supported by Higher Education Institutions, Comparison of negative capacitance phenomenon in ordinary amorphous and electroformed nanocrystalline silicon based LEDs, 2016 - 2017

ANUTGAN M., Project Supported by Higher Education Institutions, Kan şekerinin yapay sinir ağları kullanılarak kestirimi, 2015 - 2017

ANUTGAN M., Project Supported by Higher Education Institutions, Piezoelektrik Madde ile Enerji Üretimi, 2015 - 2017

ANUTGAN M., Project Supported by Higher Education Institutions, SERAMİK SÜPERİLETKENLERDE PROKSİMİTE ETKİSİNİN İNCELENMESİ, 2014 - 2015

ANUTGAN M., Project Supported by Higher Education Institutions, FOTOVOLTANİK PANELLERİN VERİMİNE SICAKLIĞIN ETKİSİNİN ARAŞTIRILMASI, 2013 - 2014

### **Scientific Research / Working Group Memberships**

İnce Film Malzemeler ve Aygıtlar Laboratuvarı, KARABÜK ÜNİVERSİTESİ, Turkey, web.karabuk.edu.tr/anutgan, 2006 - Continues

### **Invited Congress and Symposium Activities**

ICANS28, Attendee, Paris, France, 2019

ICAPM, Attendee, Sankt-Peterburg, Russia, 2017

ICANS27, Attendee, Seoul, South Korea, 2017

ANNIC2016, Attendee, Barcelona, Spain, 2016

TFD18, Attendee, Muğla, Turkey, 2011

### **Citations**

Total Citations (WOS):55

h-index (WOS):4

### **Awards**

ANUTGAN M., Silver Medal - Inventions Section, Euroinvent 2017, May 2017

ANUTGAN M., Halk Oylaması İkinciliği, Yeni Fikirler Yeni İşler, ODTÜ Teknokent, January 2016

ANUTGAN M., Silikon Vadisi Girişimcilik Eğitimi Ödülü, ABD, Yeni Fikirler Yeni İşler, ODTÜ Teknokent, January 2016