Prof. Dr. Levent TRABZON[1]
Director, MEMS Research Center

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Mechanical Engineering Department
Istanbul Technical University
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Research Interest:

Surface treatments and science, surface hardening of steel, Nano-materials/technology, thin film deposition, MEMS, NEMS, microfluidics. bio-materials, plasma nitriding, microsystem design and modeling, technology and innovation management, emergency management

Education:

Ph.D. Engineering Science, Penn State University (PSU), University Park, PA 1995 - 2000

M.Sc. Material Science & Engineering, Carnegie-Mellon University (CMU), Pittsburgh, PA 1993-1995 (Minor in Electronic Materials).

Certification on Emergency Management by Federal Emergency Management Agency (FEMA USA), Istanbul Technical University, Istanbul, 2000-2001

B.Sc. Mechanical Engineering, Boğaziçi University, Istanbul, Turkey 1987-1992

Add-on Certifications:

- Essentials of Entrepreneurship, ITU-Teknokent, March, 2019 and 2021
- Innovation Management, Cambridge Judge Business School, 7-8 November, 2013
- Essentials of Leadership, Rotterdam School of Management, Erasmus University, 28-29 August, 2013
- Leadership in Disaster Management Course, FEMA Headquarter, Emmitsburg, Maryland USA. Sept 23-26, 2013
- Advance Public Information Officer Course, FEMA Headquarter, Emmitsburg, Maryland USA. June 18-21, 2012.
- Continuity of Operation Planning TT Course, FEMA Headquarter, Emmitsburg, Maryland USA. June 11-13, 2008.
- Higher Education Conference, FEMA Headquarter, Emmitsburg, Maryland USA, June 6-9, 2008.
- Homeland Security Planning (Train the Trainer), by invitation of the Federal Emergency Management Agency, held at the ITU, Istanbul, Turkey; October 6 – 8, 2004.
- Multi-Hazard Emergency Planning for Schools (Train the Trainer), by invitation of the Federal Emergency Management Agency, held at the ITU, Istanbul, Turkey; October 4 – 6, 2004
- Project Management Methodology and its Applications, 2001, *organized by ITU Foundation*
- Debris Management, FEMA Headquarter, Emmitsburg, Maryland USA, Sept 10 - 14 2001

[1] Prepared on 1th of Jan‘24

Research & Work Experience:

2000-prst: Professor, Istanbul Technical University, Material Science and Manufacturing Division.

2019 – 2020: Vice Director, Institute Disaster Management

2018 – 2020: Founding Director; ITUnano Nanotechnology Research and Application Center

2018-2019: Member of ITU Undergraduate Research Strategy Development Committee

2016 – 2018: ITUnano Nanotechnology Research and Application Center, established and run the center

2015 – 2016: Member of ITU R&D Strategy Development Committee

2014 – 2016: Member of TUBITAK ARDEB EEEAG MEMS and Screen Technologies Funding Program Advisory Board

2013 - 2016: Prof. Dr. Adnan Tekin Materials Sciences and Production Technologies Applies Research Center

2012 – 2016: Advisor to Rector on R&D
- Coordinator of ITUnano Research Center
- Established Technology Transfer Office

2013 – 2015: Head of Nano-Science and Nano-Engineering Program

2011 – 2017: Cofounder and Codirector of NTI, NanoTechnology Innovations, Inc.

5/2011 – 5/2012 Be an expert in the European NanoFuture Committee on "Inventive Session on Nano-Micro Manufacturing" key node

2008 – Prst: Member of Graduate Program on NanoTechnology and NanoScience and member of founding committee

2008 – Prst: Director, MEMS Research Center, www.mems.itu.edu.tr, established and run the center

2008 – 2010: Advisor to Rector on R&D
- Established and Coordinator of ITULabs (www.itulabs.itu.edu.tr), web-based portal on equipment, service, soft-ware, labs and test inventory of ITU; it is the first in the world in terms of scope and properties
- Established and Coordinator of ITU-Project (www.proje.itu.edu.tr), containing guidance and advising info about all national funding opportunities as well as list of all R&D project details starting 2000; it is a passive-consulting site to expand the capabilities of ITU on R&D
- Established and Co-Coordinator of BAPSO (web-based project evaluation system); ITU-Research funding instrument.
- Coordinator of ITUNano Project

2005 – 2008: Established state of the art clean room @ MEMS Research Center

2006 – 2008: Vice-Director, Emergency Management Institute, Istanbul Technical University

2003: Research Engineer at Fraunhofer Institute for Photonic Microsystems, working on MoEMS reliability i.e. charging behaviour of USG by DUV.

2002 – 2010 Member of Graduate Program on Advanced Technologies on Materials Science and Engineering

2002: Be a member in “Vision-2023 Turkey” program by TUBITAK

2001-2002: Consulting on the yield management in IC fabrication at the Semiconductor Technology Research Laboratory, Marmara Research Center (MRC), TUBITAK

1999-2000: Working on U-Power MOSFETs, process optimization and electrical characterization of devices with INTERSIL.

1998: IBM T.J. Watson Research Center, working on physics of devices with high-k gate-stacked oxides.

Honors/Awards:

"Performance Award" from Istanbul Technical University in a period of 2019 – 2022 (3-year long evaluation) by research and academic success based on number of publications, number of citations, number projects with earning budget, number of graduated students in graduate level and administration duties, May-2023

"Article Performance 2021-Award" from Istanbul Technical University based on number articles published in 2022, May-2023

"Performance Award" from Istanbul Technical University in a period of 2016 – 2021 (5-year long evaluation) by research and academic success based on number of publications, number of citations, number projects with earning budget, number of graduated students in graduate level and administration duties, May-2022

"Article Performance 2021-Award" from Istanbul Technical University based on number articles published in 2021, May-2022

In the International Innovation Competition 2021 (IAM2021) held in Malaysia and attended by 1,267 participants from 9 countries, our TÜBİTAK-funded project entitled "Development of Microfluidic-Based Portable Test Kit for Aflatoxin Detection in Liquid Foods," won first place in the international category as the first and only project from Turkey.

1st place at 'Basaksehir Living Lab' innovation contest among 468 competitors in the university student section – Istanbul_2020

Fourth place in national competition on "technology for agriculture" among 763 competitors at Teknofest_2020 - Gaziantep

Bronze Medal Award at 4th International Inventions Fair for our patent titled 'Nanofiller Reinforced Polyurethane Nanocomposites and Fabrication Methods' to be applied to many industries to get value-added products

First place among 229 competitors on National Level Competition organized by TUBITAK in the domain of undergraduate thesis competition - 2018

First place in Marmara Region based in the undergraduate thesis competition of "Technology for Indispensible Fields'

Second place in national competition on "technology for the benefit of humanity" among 600 competitors - 2018 at Teknofest_2018 - Istanbul

First Place in the Undergraduate Thesis Competition in 2015 – 2016 Academic Year ITU Mechanical Engineering Department

Who's Who in America, Marquis Who's Who (2015)

Recipient of 3rd Place in Medical Textiles and Technical Dressing Category at the VII International R&D Project Competition 27-29 May 2015

Third Place in the Undergraduate Thesis Competition in 2013 – 2014 Academic Year ITU Mechanical Engineering Department

Recipient of ELGINKAN Foundation awards on the achievements of MEMS Research and Technology, 2012

TUBITAK Career Award, 2004

College of Engineering Award for Academic Excellence at Penn State, 1998

Full Scholarship in B.Sc. by Sabancı Foundation 1986 - 1990

Research Projects Involved

"Modeling and 3D Printing of Acoustic Metamaterials Prepared with Hybrid Carbon Nanotube/Graphene Reinforced Multifunctional Nanocomposites (3DNANOCOM)", Project no: 223M166, Researcher, 2024-2027

“Three Dimensional Mechanical Metamaterials with Negative Poisson Ratio based on Aramid Fiber Reinforced Composites”, Project no: 3240328532, Host Manager, funded by TWAS-UNESCO-TUBİTAK, 2023 - 2026

“Mikrokarıştırıcı İçerisinde Boylamsal Elektrot Kullanarak Yüksek Verimlilikte Karışım Sağlama” Project no: 123M263, Manager, 2023

“Otomotiv Sektörüne Yönelik Polyester Matrisli Cam Elyaf Takviyeli Kompozitlerin Karbon Nanotüp ve/veya Grafen Katkıları ile Hafifleştirilmesi ve Akustik Özelliklerinin Geliştirilmesi Projesi”, proje no: 5220151, Manager 2023 - 2025

“Versatile Agriculture by Fertilizers with QDs Enhanced Nano-composite Hydrogels for Sustainable Food Production”, funded by Southeast Asia-Europe Joint Funding Scheme for Researh and Innovation, Project no: 122N872, Manager, 2023-2026

‘Integrated Microfluidic System to Capture Circulating Tumor Cells by Ferromagnetic Nano-clusters in Si’ submitted to TÜBİTAK – MID UZBEKISTAN funded by TUBITAK, Project no: 221N138, Manager, 2022-2023

‘Yüksek Akustik Yalıtım Özellikli Grafen Katkılı Dokunmamış Keçelerin Üretilmesi ve Karakterizasyonu’, funded by KOSGEB, 2021-2023

‘Experimental and numerical investigation of electrohydrodynamic based active micromixer’ funded by TUBITAK, Project no: 121N238, Manager, 2022-2023

Production and Characterization of Recycled Polyester Based Nanocomposite Nanofibers with Improved Thermal Comfort’, funded by TUBİTAK-2218, Researcher, 2021 – 2023

‘Design of Versatile Nano-Hybrid Reverse Osmosis Membranes for Seawater Desalination’, funded by Qatar University - International Research Collaboration Co-Fund (IRCC), 2021-2023

‘Thermally Conductive Textile by Graphen Nano-Composites’, funded by ASELSAN, 2020-2021

“Carbyne Films: Synthesis of a New Class of Carbon Allotrope and Novel Applications in Sensors and Biosensors” funded by TUBITAK, Project no: 120N084, Manager, 2021-2024

“Mikrokanallarda Salınımlı Akış İle Partikül Odaklama Sisteminin İncelenmesi“, funded by ITU, project no: 42631, Researcher, 2020 - 2021

“Low-power, non-invasive conformable optical-based sensors home-assisted health and air quality monitoring”, funded by TUBİTAK, Project no: 118C365, Researcher, 2020 – 2023

“Design, Fabrication, Characterization of Scalable Nano-Enhanced Quantum Solar Cells”, funded by ITU, Project no: 42324, Manager, 2020 - 2022

“Development of microfluidic based portable test kit for aflatoxin detection in liquid foods” funded by TUBİTAK, Project no: 218M528, Manager, 2019 – 2020

“Dean Akış Fiziğinin Mikroakışkan Sistemler İle İncelenmesi”, funded by ITU, Project no: 41825, Resarcher, 2019 – 2020

“Development of DEP-based Microfluidic Systems for the Analysis of Porin-mediated Active Antibiotic Permeability”, funded by TUBİTAK, Project no: 217M151, Researcher, 2018 – 2019

“PDMS-karbon nanotüp tabanlı ve kendinden elektrodlu yeni nesil mikrobiyal yakıt hücresi tasarımı” funded by ITU, Project no: 41130, Resarcher, 2018 – 2019

“Development of microfluidic sensor system for detection of aflatoxin in food by graphene”, funded by ITU, Project no: 40707, Manager, 2017 – 2020

“Design, fabrication and characterization of 3-D electrode based microfluidics systems for cell separation” funded by ITU, Project no: 40578, Manager, 2017 – 2018

“Acoustic Properties of Styrene Butadiene Rubber-Isocyante Compositon Renforced with Carbon Nanotubes and Silicon Oxide Nano-Powder”, partially funded by DKM Construction, Manager, 2016 – 2017.

“Development of Integrated Microfluidic Chip Based Diagnostic Kit for Sensitive and Rapid Diagnosis of Tuberculosis Infection”, funded by TUBİTAK, Project no: 115R002, Researcher (Co-PI), 2015 – 2017

“Nano-Ölçekte a-Si Çubuklarının Geometrik Morfolojilerin Güneş Pili Performansına Etkilerininin İncelenmesi”, funded by ITU, Project no: 9968, Manager, 2015 – 2016

Robotik Sistem ile Organik Materyallerden Nükleik Asit ve Hücrelerin Yüksek Saflıkta İzolasyonu” funded by TEYDEP-TUBITAK, Project no: 1130116, Co-Manager, 2014 - 2018

“Development of Nano-Acoustical Materials”, funded by Taibahu University, Kingdom of Saudi Arabia, Manager, 2014 - 2015

“Investigation on the Effects of Mechanical Forces on Endothel Cells Behaviour by Using Microfluidics Systems in the domain of Mechanobiology” funded by TUBİTAK, Project no: 114R037, Manager, 2014 – 2017

“Development of Single Cell Capturing Microfluidic Systems for Early Diagnostics” funded by TUBİTAK, Project no: 114M802, Researcher, 2014 – 2017

“Entegre ve Taşınabilir mikro-PCR sisteminin tasarımı, üretilmesi ve karakterizasyonu”, funded by ITU, Project No: 9855, Manager, 2015 – 2017

“Demir Doplu TiO2 Nano-Filmin Üretilmesi ve Yapısal ve Optik karakterizasyonu”, funded by ITU, Project No: 2880, Manager, 2014 – 2016

“Design, fabrication and Integration MEMS based turn-counting device”, funded by ASELSAN, Manager, 2013-2014;

“Advanced Filtration Technology to Remove Volatile Organic Compound”, funded by BOEING, Co-Manager, 2013 – 2016

“Characterization, Fabrication and Design of Microfluidics Systems Based on Dielectrophoresis for Cell Handling Applications”, funded by TUBİTAK, Project no: 111M730, Manager, 2012 - 2014

“Design, Fabrication and Characterization of Biosensor through Integration of Micro Channel System on Non-woven Textile Surfaces”, funded by TUBİTAK, Project no: 111M483, Researcher, 2012 - 2014

“Nano-boyutta şekilli ince filmlerin kök hücrelerin davranışları üzerine etkilerinin araştırılması” funded by ITU, Project No: 36173, Manager, 2011/13

“Membran Teknolojileri Ulusal Araştırma Merkezi Kurulması” funded by DPT, Researcher, 2010 -2013

Femto-saniye lazer teknolojisi kullanılarak Si malzemesinin Mikro-Ölçekte Biçimlendirilmesinin incelenmesi, funded by ITU, Project no: 3901, Researcher, 2010- 2012

“Microscale Combustion of Liquid Hydrocarbons with Electrospray Technique**“,** funded by TUBİTAK, Project no: 109M449, Researcher, 2009 - 2012

“Biyolojik Hücre Ayrıştırma Uygulamaları için Düşük Maaliyetli Mikro-Akışkan Sistemlerin Tasarımı, Üretimi ve Karakterizasyonu” funded by TUBİTAK, Project no: 109M298, Manager, 2009 - 2011

“Metallization of Cu and Au on polymer substrates by electroplating for flexible microelectronic applications”, funded by ITU, Researcher, 2008 - 2010

“Development of nano-patterned biofunctional surfaces by PVD and Surface MicroMachining”, funded by DPT, Project no: 2003K120630, Manager, 2005-2009

“Fabrication and Characterization of Nano-Sized Si and NiTi Shape Memory Alloys Sculptured Thin Films”, funded by TUBİTAK, Project no: 105M059, Researcher, 2005 - 2008

“Design and Analysis of MEMS Pressure Sensor based on Piezoresistive Sensing, funded by ITU, Project No: 31386, Manager, 2005

“Designing and Analysing a high-g MEMS-based accelerometer with high precision measurement cabability and ready to fabricate with its electronic circuits”, funded by TUBITAK-Career, Project No: 104M275, Manager, 2005 - 2007

“The study on the materials and mechanical properties of plasma nitriding of 316L at low temperatures”, funded by ITU, Project no: 30673, Manager, 2004-2005

“Biyobenzetim Yolu ile NanoTeknolojik Fonksiyonel Malzeme Üretimi”, DPT Projesi, Araştırmacı, 2003 - 2006

Reliability of MOEMS: The mechanism of charging”, The Fraunhofer Institute, Dresden, manager as guest scientist, 2003

“The study of yield in IC fabrication line”, 2002-2003, TUBITAK-UAKAE, Manager

“The investigation on deposition of sculptured thin films and realization of bed-springs in nanometer scale”, funded by TUBITAK, Project no: 101M133, 2001-2003, Manager

Working on U-Power MOSFETs, process optimization and electrical characterization of devices with INTERSIL, 1999-2000, Researcher

Study on on physics of devices with high-k gate-stacked oxides, IBM T.J. Watson Research Center, 1998, Researcher

Project on developed and performed electrical characterization schemes capable of simulating inductive-type process-induced damage to thin gate oxides and interfaces, SEMATECH, 1995 - 1997

Research Proposals – Spent time and energy and learnt a lot – but not being funded!

- Rheology of GRM dispersions – a multiscale modeling and experimental approach FLAG-ERA JTC 2021 - Graphene - Basic Research
- Quantum Dot Decorated CNT Based Versatile Diagnostic Device for Pathogenic Organism, Manager, submitted to Southeast Asia - Europe Joint Call
- "Sweat-activated high-energy-density Al ion batteries for fully integrated on-skin microfluidic sensing platform", submitted to Joint call for Türkiye-China
- Continuous flow synthesis of Phthalocyanine, Porphyrin and Bodipy MOFs and Solar Cell Applications, Researcher, submitted to TUBITAK
- Advanced Combinations of Materials for Conservation, submitted to H2020-NMBP-2016-2017
- Scalable and Versatile Nano-Hybrid Reverse Osmosis Membranes: System Design, Production and Testing, Manager, Submitted to Joint call for Turkey-Qatar
- Digital Acquisition of infection (and inflammatory) risks in agricultural products for improved food safety, mananger, submitted to ICT-AGRI-FOOD
- Management of Resilience to multi-hazard crises and disasters through an operational approach, summitted to H2020-DRS-2014
- Ultra Sensitive Immunological Optical Detection of SARS-CoV-2 Virus Based on Quantum Dots in Microfluidic System, Researcher, Submitted to TUBITAK
- Design, fabrication and characterization of Integrated LoC systems to tackle Free-Label Cells Separation and Phenotyping, Manager, Submitted to TUBITAK
- Development of fast and sensitive diagnostis-kit for Myeloproliferative neoplasms with an integrated microfludics based system, Manager, Submitted to TUBITAK
- Resilient and Smart Reverse Osmosis Membrane Quality by Scalable Digital Acquisition and AI based Decision Making System, Submitted to Joint call for Turkey-Qatar
- Microfluidics on-chip system for molecular diagnostics of Chronic Myeloid Leukaemia by Gold-nanoparticles, Submitted to Joint call for Turkey-Portugal
- Bağışıklık Sistemi Hücrelerinin Ayrıştırılmasına Yönelik Dep Tabanlı Loc Sistem Tasarımı, Üretimi Ve Karakterizasyonu, Manager, Submitted to Joint call for Turkey-Tunusia
- Design, Fabrication and Characterization of Nano-based Bio-inspired Body Armor, Manager, Submitted to TUBITAK
- Novel Strengthened Thermal-Insulation Nanocomposite Foams using Hybridization of Nanomaterials, manager, submitted to Joint call for Iran – Turkey
- Early Cancer Diagnosis with an integrated LAB-on-a-chip for separation and analysis of circulating tumor cells, researcher, submitted EURONANOMED3
- Thermally conductive hexagonal boron nitrite (h-BN) hybrid polymer nanocomposite, manager, submitted to Bor Institute
- Isolation and Caracterization of Hematopoietic Stem Cells in Microfludic Systems, Researcher, Submitted to TUBITAK

International Collaborations (major ones):

Osama O. Awadelkarim (Penn State University - USA), Pengwan Chen (Beijing Institute of Technology), **Levent Yobaş (Hong Kong University of Science and Technology),** Harald Schenk (IPMS – Germany), **Sobirjon Isamov (Tashkent State Technical University – Uzbekistan),** Syed Javaid Zaidi (Qatar University – Qatar), **Andreas Isacsson (Chalmers University of Technology – Sweden),** Srdjan Sasic (Chalmers University of Technology – Sweden), **Lars Pastewka (University of Freiburgh – Sweden),** Viviana Scognamiglio (Institute of Crystallograogy – Italy), **Karl-Heinz Feller (Ernst-Abbe-University of Applied Sciences Jena – Germany)**, Alexander Lukin (Western-Caucasus Research Center – Russian Federation), **Mariya Aleksandrova (Technical University of Sofia – Bulgaria),** Evangelos Gogolides (National Centre for Scientific Research 'Demokritos' - Greece), **Gianaurelio Cuniberti (Technical University of Dresden – Germany),** Valery Kochakov (Chuvash State University – Russian Federation), **Taher Azdast (Urmia University – Iran)**, Alireza Rostamzadeh Khosroshahi (Islamic Azad University – Iran), **Khalid Mahmood (Government College University Faisalanad – Pakistan),** Siti Khodijah Chaerun (Bandung Institute of Technology – Indonesia), **Anom Bowolaksono (University of Indonesia – Indonesia),** Alastair W. Poole (University of Bristol – UK), **Wasim Orfali (Taibahu University – Saudi Arabia),** Nasr-Eddine HAMDADOU (Oran Science and Technology University – Algeria), **Gerald Ziegenbalg (Technical University of Dresden - Germany),** Tony Huang (Duke University – USA), Ali **Beşkök (Southern Methodist University – USA),** Salim Ok (Kuwait Institute of Scientific Research – KIST), **Siti Khodijah Chaerun (Bandung Institute of Technology - Indonesia),** Teo Yin Yin (University of Malaya - Malaysia), **Nadia Nuraniya Kamaluddin (University of Padjajaran – Indonesia), Salim OK (**Kuwait Institute for Scientific Research, Petroleum Research Center, Kuwait)

Research Projects on Emergency Management

"İstanbul İli ve İlçelerinin Enkaz Yönetimi Planlama Metodolojisinin Oluşturulması ve Model Önerilmesi", funded by Istanbul Metropolitan Municipality, 2009

"Acil Durumlarda İnsan Yoğun Fiziksel Mekanlarda Tahliye Planlaması ve Modellemesi" funded by Istanbul Metropolitan Municipality, 2009

"Development of Model on National Disaster Management", funded by the Ministry of Interior, Republic of Turkey, 2002

"National Emergency Management, Education and Application Programs", funded by the Ministry of Interior, Republic of Turkey, 2002

Consultancy on Emergency Management

Development Emergency Management Algoritms and Planning at Botaş-Ceyhan, 2014 - 2015

Emergency Management Planning for Bayrampasa Municipality, Istanbul, 2012 - 2013

Emergency Management Planning for Kucukcekmece Municipality, Istanbul, 2010 - 2012

Development Emergency Management Algoritms and Planning at Ipragaz, 2008

Educational Training of Koc High School, 2006

Preparation of emergency management plans in Erdemir Iron-Steel Factory, 2004 – 2005

Courses Taught

Graduate Level (E: English)

MEMS, Aselsan Akademi
BioMEMS, ESIGELEC, Ecole Superieure d'Ingenieurs, a St-Etienne du Rouvray
Introduction to Nano-Science and Nano-Engineering, NSE803E
Microelectromechanical Systems, MAK649E
MEMS, MBM510E
Fabrication Techniques in Nanotechnology, NSE506E
Engineering Essentials of Polymer-Nano-Composites, Aselsan Akademi – MAK632E

Undergraduate Level (E: English)

Introduction to Nanotechnology and Nanosystems, MAK378E
Introduction to Microelectromechanical Systems, IML467E
Heat Treatment of Metal & Alloys, MAK467E
Non-Metallic Materials, MAK465E
Experimental Methods in Mechanical Engineering, MAK411E
Manufacturing Tecniques, MAK351E
Engineering Materials, MAK214E, MAK224E
Manufacturing Properties of Materials, IML213E
Malzeme, MAL201, MAK213
Materials Science and Engineering, MAL201E
Engineering Biology, BIO101E
Introduction to Science of Engineering Computation, BIL102E
Introduction to Computers and Information System, BIL101E

Courses taught on Graduate Level Disaster Management at Istanbul Technical University

Disaster Response Operations and Management
Fire Risks and Management
Policies in Disaster Management

Patents:

"Ultrafast water flux through hot-pressed solution blown spun nanofiber-based thin film composite membranes for forward osmosis" - 2023/8/31

"Gıda, Tarım ve Hayvancılık Ürünü Kontaminantlarının Ön İşlem ve Kantitatif Analizinin Yapılabildiği BİT Destekli MEMS Tabanlı Taşınabilir Cihaz"- 2022/018889

"Hibrit Nanopartikül Takviyeli Poliüretan NanoKompozit ve Üretim Yöntemi"- 2019/ 00222

"Dokunmamış Tekstil Yüzeyi Tabanlı Bir Mikro Akışkan Aygıt ve Üretim Yöntemi" – TR 2013 12278 B

"Bir Biyolojik Damar ve Üretim Yöntemi" – TR 2014 02431 B

"Dolaşım Sistemindeki kanser Hücrelerinin kandan sürekli biçimde ayrıştırılması ve zenginleştirilmesi için asimetrik kıvrımlarla yapılandırılmış spiral geometriye sahip bir mikrokanal"- 2017/04078

"Mikrokanal mit aus asymmetrischen Windungen aufgebauter spiralförmiger Geometrie zur kontinuierlichen Abtrennung von Krebszellen aus Blut und Anreicherung derselben im Kreislaufsystem" -DE 11 2018 001 435.5

"Microchannel Having a Spiral Geometry Structured with Asymmetrical Curls for Continous Separation of Cancer Cells From Blood and Enrichment Thereof in the Circulatory Stystem" – US Patent 11,161,113 B2

"Flexible Porous Graphene-PDMS Composite as a strain-controlled electrical switch and thermal management material" submitted to Turkiye patent office

"The Effect of Processing Conditions and Hor-Press Treatment on the Properties of Novel Solution Blown Spun Polysulfone-Based Nanofiber Membranes" submitted to USA patent office

"Mechanically Strong Polyether Sulfone Nanofiber Membranes Produced by Solution-Blow-Spinning and Heat-Press Post-Treatment" submitted to USA patent office

"Ultrafast Water Flux Through Solution Blown Spun Nanofiber-based Thin Film Composite Forward Osmosis Membranes" submitted to USA patent office

"Thermal İletkenlik Özelliği İyileştirilmiş Karbon Nano Katkılı Geri Dönüştürülmiş Poliester Nanolif Nanokompozit Üretim Yöntemi" *submitted to Turkiye patent office*

Recognition of Research:

Our research on 'Scalable Nano-Enhanced Quantum Solar Cells' was featured at several media outlets in May-2020: İlkses (20.05.2020), Analiz (19.05.2020), UlusalPost.com (18.05.2020), Dikgazete (18.05.2020), Gerçektaraf (18.05.2020), Ogunhaber (18.05.2020), SıcakHavadis (18.05.2020), VanPostasıGazetesi (18.05.2020), Hürriyet (18.05.2020), TeknolojiGündem (18.05.2020), Kanal5 (18.05.2020), HaberABD (18.05.2020), F5Haber (18.05.2020), Haber3 (18.05.2020), Haberturk (18.05.2020), Sondakika (18.05.2020), TRTHaber (18.05.2020), BeyazGazete (18.05.2020), Turkish.Shafaqna.com (18.05.2020), Netmedya (18.05.2020), Star (18.05.2020), Yeniakit (18.05.2020), TimeTurk (18.05.2020), KonHaber (18.05.2020), KonyaYeniGün (18.05.2020), AA (18.05.2020), Haber.IM (18.05.2020), KanalB (18.05.2020), MarmaraGazetesi (18.05.2020), PusulaHaber (18.05.2020)

Interview with Tekno Alan TV program in TV 24 on 23rd of October

Our research findings were featured on several news platform and newspapers at different times in the year of 2018: Anadolu Ajansı (10/12/18) and (08/04/18), Habertürk (11/12/18) and (08/04/18), Hürriyet (10/12/18) and (09/04/18), Sputnik (10/12/18), Yeni Asya (10/12/18), Haberler.com (10/12/18), Akşam (10/12/18), T24 (10/12/18), Ensonhaber (10/12/18), Medimagazin (10/12/18), TRT Haber (10/12/18), TRT World (10/12/18), Posta (10/12/18), Arı24 (10/12/18), Yeni Asır (08/04/18), Yeni Akit (08/04/18), Türkiye (08/04/18), A24 (08/04/18), Star (08/04/18), sondakika.com (08/04/18), karar.com (08/04/18), netturk.com (08/04/18)

The research on portable microsystems was published in H2O magazine p.36-38 iss. 12, 2018

The Scientific and Technological Research Council of Turkey (TUBITAK) published a book titled "Success Stories" due to 50th anniversary of establishment. The book contains only 120 projects selected from more than 10000 ones funded by TUBITAK in the last decade. One of the projects, which was directed by Prof. Levent Trabzon, is listed in the "Success Stories". The project title is "Fabrication of low cost microfluidic systems for biological cell separation applications"

Interview with Bilişim Dergisi on Nanotechnology, January 2015
Interview with Gonul Culture and Civilization Magazine, September 2014

The research on Compliant-MEMS was recognized and printed in the Europractice 2010 catalog (First time appearance from Turkey in the catalog)

Research on Mesenchymal Stem Cell Differentiation on Nano-Structures was featured in Sabah daily newspaper on October 29, 200

List of the Publications:

Journal and Proceeding Publications:
*The ones in **bold** are in indexed Journals – 80 SCI-indexed journal articles among them*

2024

"Exploring the Gas Sensing Potential of Cross-Linked Asphaltene: A Promising Application of an Affordable Material" M.A. Hejazi, S. Ok, J. Samule, L. Trabzon, accepted by ACS Applied Materials & Interfaces, doi.org/10.1021/acsami.3c14766

2023

Carbon Quantum Dots as a Fertilizers, Sena Çaylak, Berat Karaca, Naida Nuraniya Kalaluddin, Teo Yin Yin, Khodijah Chaerun, Caner Ünlü and Levent Trabzon, 10th International Conference on Mechanical , Automotive and Materials Engineering, 20-23 December, Da Nang, Vietnam

"Investigation of Inertial Focusing of Micro- and Nanoparticles in Spiral Microchannels using Computational Fluid Dynamics", A.T. Aldemir, S. Çadırcı, L. Trabzon, Physics of Fluid, 35(11), 112012

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Mathematical Model and Analysis of Force Feedforward Mechanism for Surface MicroMachined Acceleroemeters, O. Erdener and L. Trabzon, Proceedings of MicroMechanics Europe 08, pg. 189, Achen

"Evaluation of Mechanical Properties and Biocompatibility of Plasma-nitrided Laser-cut 316L Cardiovascular Stents", Trabzon L., Igdil M.C., Arslan E, Tamerler C., Bermek H., J. Materials Science: Materials in Medicine Vol. 19, pgs. 2079 - 2086 (2008)

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In-Situ Characterization of Charging in the Silica Glass/Silicon Nitride Materials Exposed to DUV Laser Light, L. Trabzon, Proceedings of 10th ECerS pgs. 520 – 523 (ISBN: 3-87264-022-4) (2007)

"The Fabrication and Characterization of nano-sized Porous Ag- Thin Film by Thermal Evaporation Method", Y.A. Sener, L. Trabzon, K. Kazmanli, M. Urgen, Proceedings of 10th ECerS pgs. 1534 – 1539 (ISBN: 3-87264-022-4) (2007)

"The Source of Instability of Micromirrors: the Behaviour of Insulator under DUV Laser Light", H. Kizil, L. Trabzon, K. Lukat, I. Jankowski, P. Duerr and H. Schenk, Proceedings of MicroMechanics Europe 07, pg. 207, Portugal

"Sculptured Nano-patterns for Bio-Technology", L. Trabzon, K. Kazmanlı and M. Urgen, Proceedings of BioMed, Yeditepe University, August (2007)

"The Corrosion Behaviour of Austenitic 316L Stainless Steel after Low-T Plasma Nitridation in the Physiological Solutions" E. Arslan, L. Trabzon, M.C. Igdil, K. Kazmanlı and T. Gulmez, the Plasma Processes and Polymers, Vol. 4, pgs: S717 – S720 (2007)

"Afetlere ve Olağandışı Olaylara Müdahalede Enkaz Yönetimi" H. İskender, L. Trabzon and N. Erdoğan, TMMOB Afet Sempozyomu, p. 289, 2007

2006

L. Trabzon, invited, Fabrication of Microchannels, invited, Journal of Engineer and Machinery, Vol. 47, No: 556, p. 34 (2006)

"Measurement of Charging Under DUV Laser by a Test Chip for MOEMS and the Mechanism of Charging", L. Trabzon, K. Lukat, I. Jankowski, P. Duerr and H. Schenk Proceedings of the 6th euspen International Conference – Baden bei Wien - May (2006)

"The comparative study on mechanical properties of plasma nitrided 316L thin film by nano- and micro-indentation", M.C. İğdil and L. Trabzon, 13th International Materials Symposium, Denizli (2006)

"On the materials properties of thin film plasma nitrided austenitic stainless steel", L. Trabzon and C. İğdil,Vol. 200, iss. 14-15, p. 4195, Surface Science and Coating (2006)

2005

"Design and Analysis of Surface Micromachined Accelerometer With High Dynamic Range by Force Feedback Mechanism", O. Erdener, L. Trabzon, A. Toker, MME05, 16th Workshop on Micromachining, Micromechanics, and Microsystems, p.160, 4-6, Göteburgh (2005)

"On the Design and Analysis of a Simple Smart Shirt for Monitoring Sudden Infant Death in Babies", H.A. Yıldız, A. Önel, L. Trabzon, H.C. Karakaş, N. Uçar, International Scientific Conference "Intelligent Ambience and Well-Being", Ambience'05, p. 1, 19-20, Tampere (2005)

"The Fabrication Principles of Nano-Sized Engineered Thin Films by Thermal Evaporation", Y. A. Şener,L. Trabzon, K. Kazmanlı, M. Ürgen, 12th International Metallurgy-Materials Congress, Istanbul (2005)

"Mechanical Properties of Austenitic Stainless Steel after Low Temperature N_2-H_2 Plasma Nitridation", L. Trabzon, C. İğdil, First International Conference on Diffusion in Solids and Liquids, Aveiro, Portugal (2005)
"Design Solutions in Electronic Textile", H.C. Karakaş, N. Uçar, L. Trabzon, International Istanbul Textile Conferences, Recent Advances and Innovations in Textile and Clothing, p. 33., Istanbul (2005)

2004

"Electronic Textiles and wearable computers", H.C. Karakaş, N. Uçar, L. Trabzon, II International Textile Engineering Conference, Brasil, September (2004)

"Principles for Growth Pyhsics of Nano-Sized Sculptured Thin Films", L. Trabzon and M.C. Igdil, Proceeding of 10th Materials Symposium, p.405 (2004)

"Materials, Heat Treatments and Surface Treatments Used in the Stent Manufacturing", E. Aslan, L. Trabzon and M.C. Igdil, Proceeding of 10th Materials Symposium, p.682 (2004)

"Properties and Application of Nanophase Materials", C. Ergün, L. Trabzon, S. Yilmaz, T. Gulmez and B. Eryurek, Proceeding of 10th Materials Symposium, p.500 (2004)

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"Changes in Material Properties of Low-k Interlayer Dielectric Polymers Induced by Exposure to Plasmas", L. Trabzon and O. O. Awadelkarim, Vol. 65, p.463, Microelectronics Engineering (2003)

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"The Utilization and Effect of Plasma Exposure on Materials Properties of Low-k Polymers in Microelectronics**",** L. Trabzon and O. O. Awadelkarim, ASME International ESDA, ADM-015, p.1

2001

"The Degradation of MOSFETs Induced by the Via Etching of Interlayer Low-k Polymers"
L. Trabzon and O. O. Awadelkarim, Proceeding of the 13th IEEE International Conference on Microelectronics, p.103, (2001)

"Characterization of Gate Oxide Degradation Mechanisms in Trench-Gated Power MOSFETS Using the Charge Pumping Technique", G. Dolny, N. Gollagunta, S. Suliman, L. Trabzon, M. Horn, O.O. Awadelkarim, S. J. Fonash, J. Hao, R. Ridley, T. Grebs, J .Zeng, C. Kocon, International Symposium on Power Semiconductor Devices (ISPSD), p.431 (2001)

**- "The Dependence of UMOSFET's Characteristics and Reliability on Geometry and Processing"
S. A. Suliman, N. Gollagunta, L. Trabzon, J. Hao, R. S. Ridley, C. M. Knoedler, G. M. Dolny, O. O. Awadelkarim, and S. J. Fonash, Semicond. Science and Technology, Vol. 16, p. 447 (2001)**

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- "Damage to Sub-Half Micron Metal-Oxide Field-Effect Transistors from Plasma Processing of Low-k Polymer Interlayer Dielectrics" L. Trabzon and O. O. Awadelkarim, Semiconductor Science and Technology, 15 (4), p. 309 (2000)

1999

- "The Dependence of Sub-Half-Micron Transistor’s Performance on Interlayer Dielectric Processing"
L. Trabzon, O. O. Awadelkarim and J. Werking, J. Vac. Sci. Tech. B, 17 (5), p. 2216 (1999)

" Material Property and Device Performance Measurements for The Assessment of Low-k Polymers as Interlayer Dielectric”, L. Trabzon, O. O. Awadelkarim and J. Werking, American Vacuum Society Proceedings of 1st International Conference On Advanced Materials and Processes for Microelectronics (ICAMPM) (1999)

The Dependence of Sub-Half-Micron Transistor’s Performance on Interlayer Dielectric Processing, L. Trabzon, O. O. Awadelkarim and J. Werking, American Vacuum Society Proceedings of 1st International Conference On Advanced Materials and Processes for Microelectronics (ICAMPM) (1999)

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- "The Effects of Interlayer Dielectric Deposition and Processing on the Reliability of N-Channel Transistors", L. Trabzon and O. O. Awadelkarim, Proceedings of the Symposium on Giga Scale Integration Technology, 35th Annual Society of Engineering Science Meeting, p. 95 (1998)

- "The impact of Interlayer Dielectric Deposition and Processing on N-Channel Transistor’s Fowler-Norheim Stress Reliability" L. Trabzon and O. O. Awadelkarim and J. Werking,, Solid State Electronics, 42 (11), p. 2031 (1998)

- "Damage to n-MOSFETs from Electrical Stress: Relationship to Processing Damage and Impact on Device Reliability", L. Trabzon and O. O. Awadelkarim, Microelectronics and Reliability, Vol. 38 (4), p. 651 (1998)

1997

- "Electrical Stress Simulation of Plasma-Damage to Submicron Metal-Oxide-Silicon Field-Effect Transistors: Comparison between direct current and alternating current stresses", L. Trabzon and O. O. Awadelkarim, J. Vac. Sci. Technol. A Vol. 15 (3), p. 692 (1997)

- "Comparison Between Direct Current and Sinusoidal Stressing of Gate Oxide and Oxide/Silicon Interfaces in Metal-Oxide-Silicon Field-Effect Transistors", L.Trabzon and O. Awadelkarim, J. Werking, G. Berkusar and Y. Chan, J. Appl.Phys., Vol. 81 (3), p. 1575 (1997)

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- "Sinusoidal AC Stressing of Thin-Gate Oxides and Oxide/Silicon Interfaces in 0.5 µm n-MOSFETs"
L. Trabzon and O. O. Awadelkarim, J. Werking, G. Berkusar and Y.D. Chan, IEEE Electron Device Letters, Vol. 17 (12), p. 1 (1997)

Books on Emergency Management

"Emergency Management in Schools and a Handbook for Emergency Management and Planning", M. Kadıoglu, I.Helvacıoglu, N. Okay, Tezer A., L. Trabzon, H. Turkoglu, Y. S. Unal and R. Yigiter, ITU Disaster Management Cente Management Center Publications, ITU Press, 2003, Istanbul (in Turkish)

"Emergency Operating Center: Management and Design"
L. Trabzon and I. Helvacioglu, ITU Disaster Management Center Publications, ITU Press, 2002, Istanbul (in Turkish)

"National Disaster Management Modelling" S.M. Şener, A. Tezer, M. Kadıoğlu, İ. Helvacıoğlu and L. Trabzon, ITU Disaster Management Center Publications, ITU Press, 2002, Istanbul (in Turkish)

Conference & Seminar Presentations:

L. Trabzon Sustainability in Disaster Management: Principles and Algoritm, Invited Speaker, International Conference on Advanced Intelligent Systems for Sustainable Development, Rabat – Morocco, 2022

L. Trabzon Carbon Based Multidimensional and Multifunctional Polymer Nano Composites by Hybrid Approach, Invited Speaker, 10th International Fiber and Polymer Research Symposium, Istanbul, 2022

L. Trabzon Fundamentals of Inertial Microfluidics and enhanced particle manipulation without external field, Invited Speaker, Mikroakışkan Çip Üretim Teknikleri ve Ayırma Uygulamaları Çalıştayı - Eskişehir

L. Trabzon Novel Carbyne based materials for Gas Sensing: Fabrication and Characterization, MS&T22: Materials Science & Technology, 9-12 October, Pittsburgh, USA, 2022

L. Trabzon Carbon Based Multidimensional and Multifunctional Polymer Nano Composites by Hybrid Approach, Invited Speaker, International Conference on Material Science and Nanotechnology Islamabad, Pakistan, 22– 23 August. 2022

L. Trabzon, "The Use of Engineered Si Nano-Columns in Engineering applciations, Invited Sepaker, International Conference on Sculptured Thin Films (GLAD 2021)

L. Trabzon, 'Engineering of Carbon-Based Nanofiller Reinforced Polyurethane Nanocomposites', Invited Speaker, 2. International Symposium on Applied Science and Enginering-ISASE, 09.March.2021

L. Trabzon, 'The use of Inertial Forces for Particle Manipulation in Microfluidics', Keynote Speaker, International Conference on Intelligent Robotics, Mechatronics and Automation Systems, IRMAS, 21.March.2021

L. Trabzon, 'Fabrication and Characterization of Nanofiller Reinforced Polyurethane Nanocomposites' Invited, Materials of the Future: Smart Applications in Science and Engineering, 30.March.2021

L. Trabzon, 'Mikroakışkan Sistemlerde Ataletsel Kuvvetlerin Biyolojik Uygulamaları', Invited, BiyoMEMS ve Mikro Akışkan Teknolojileri Çalıştayı, 26-February-2021

L. Trabzon 'Exploring Physics of Microfluidics in Mechanical Engineering', Keynote Speaker, Proceeding of 4th International Symposium on Advanced Materials and Nanotechnology, 01-03 December, 2020

L. Trabzon, 'Fabrication and Characterization of Nanofiller Reinforced Polyurethane Nanocomposites' International Conference on Material Science and Nanotechnology, invited, Pakistan Faisalabad, 18-20 February-2019

L. Trabzon, ""Design and Fabrication of Integrated Microchannel and Peristaltic Micropump System for Inertial Particle Seperation", 4th International Conference on Mechatronics and Mechanical Engineering (ICMME 2017), Kuala Lumpur, Malaysia, 27 – 30 November.

L. Trabzon, "The use of Nanotechnology in Mechanical Engineering Research", invited, International Conference on Automation, Robotics, and Mechatronics, May 05-06, India, 2017

"Investigation of Superposition in Microchannel Geometry for Inertial Particle Separation", U. M. Sonmez, S. Jaber and L. Trabzon, Summer Biomechanics, Bioengineering and Biotransport Conference, June 29 – July 2, 2016 National Harbor, Maryland, USA

L. Trabzon, "Mikro/Nano-Üretim Yöntemleri ile Biyolojik/Tıp Uygulamaların Geliştirilmesi", Invited, Uskudar University, May 6th, 2016

L. Trabzon, “Simulation in Dean Driven Flow Fractionation of Microparticles in Microfluidics”, 5th International Conference on Engineering & Technology, Computer, Basic and Applied Sciences, 28 – 29 January 2016, Jakarta

L. Trabzon, “İki ve Üç Boyutlu Nano-Yapıların FBB ile Üretilmesi ve Uygulamaları”, EEMKON 19-21 November, 2015, Istanbul

L. Trabzon “Nanoteknolojide Gelişmeler ve Türkiye’de Nanoteknoloji”, Invited, Sakarya University, 11 November, 2015

L. Trabzon, “Nanotechnology From History to Future”, Keynote Speaker at Internatinal Conference on Engineering Mechanics and Applied Sciences, 11-12 September, 2015, Bangkok, Thailand

L. Trabzon, “Dünyada ve Ülkemizde Nano-Bilim ve Nano-Mühendislik Evrimi”, invited, Nano ve Biyo Teknoloji Sempezyomu, Fatih Üniversitesi, 09.05.2015, Istanbul

L. Trabzon, “MEMS Teknolojisinin Biyolojik Uygulamaları”, invited, Makina Fakültesi 70. Yıl Seminerleri, 04.02.2015, Istanbul

L. Trabzon, “Characterization and comparison of visible light active Fe-doped and N-doped TiO_2 films prepared by sol-gel process”, International Conference on Arts, Management, Science and Social Sciences, December 5-6, 2014, Bandung, Indonesia

L. Trabzon, “Cell Manipulation by Microfludics System”, invited, Workshop on Current Trends in Biophotonics and BioMEMS, Istanbul Sehir University, 12.08.2014, Istanbul

L. Trabzon, “Cell Manipulation by Microfludics System” Invited, 14th National Chromatography Conference, 12-15 May 2014, Çeşme - Izmir

L. Trabzon, “Nano- and Micro-Pattern Formation on Si-Wafer by Femtosecond Laser”, International Conference on Surfaces, Coatings, and Nanostructured Materials (NANOSMAT-USA) 27-30 March 2012, Tampa, USA

L. Trabzon, “The research overview on MEMS at ITU”, invited, First National MEMS Conference, METU, Ankara, December 2011

L. Trabzon, “The research overview on MEMS at ITU”, invited, First National MEMS Conference, METU, Ankara, December 2010

L. Trabzon, The Effect of Si Nano-Columns in 2-D and 3-D on Cellular Behaviour: Nanotopography-Induced CaP Deposition from Differentiating Mesenchymal Stem Cells, presented in Nanosmat Conference Barceleno, 2009.

L. Trabzon, On the Surface Properties of Plasma Nitrided 316L Thin Film by Nano- and Micro-indentation, presented in 11th International Conference on Plasma Surface Engineering, September 15 – 19, 2008

L. Trabzon, “Fabrication of Nano-engineered Columnar Materials by Physical Vapor Deposition", invited talk in 4th International Nanoscience and Nanotechnology Conference, 9 – 13 June, 2008, Istanbul

L. Trabzon, “Why MEMS? Applications and Fabrication of MEMS”, Invited, Havacılık ve Uzay Teknolojileri Enstitüsü (HUTEN), April, 2008

L. Trabzon, “A Novel Bottom-Up Approach to Grow Nano-Sized-Porous Materials in Well Defined Geometries”, Invited, Physics Department, ITU, March, 2008

“A New Bottom-Up Technique to Sculpture Thin Films for Bio-NanoTechnology”, invited, L. Trabzon and K. Kazmanli, Workshop on Molecular Biomimetics and BioNanoTechnology: Proetein-based Materials & Systems for Science and Technology, Istanbul Technical University, Dr. Orhan Ocalgiray Molecular Biology-Biotechnology & Genetics Research Center, 12-14 November (2006)

“Evaluation of Mechanical Properties and Biocompatibility of Plasma-Nitrided Laser-Cut 316L Cardiovascular Stents”, L. Trabzon, H. Yazici, M.C. Igdil, E. Arslan, C. Tamerler and H. Bermek, Workshop on Molecular Biomimetics and BioNanoTechnology: Proetein-based Materials & Systems for Science and Technology, Istanbul Technical University, Dr. Orhan Ocalgiray Molecular Biology-Biotechnology & Genetics Research Center, 12-14 November (2006)

L. Trabzon “MEMS”, Spring seminers, 2006, ITU Mechanical Engineering Department

L. Trabzon “Nano- and Micro-Engineering on the Surface. I: Plasma Nitridation, II: Nano-Sculptured Thin Films”, Invited, Koc University, November, 2005

“Mechanical Properties of Austenitic Stainless Steel after Low Temperature N_2-H_2 Plasma Nitridation”, L. Trabzon, C. İğdil, to be presented in First International Conference on Diffusion in Solids and Liquids, 6-8 July 2005, Aveiro, Portugal

“High-g and High Dynamic Range Surface Micromachined MEMS Accelerometer By Mechanical Force Feedthrough Mechanism”, O. Erdener, L. Trabzon, A. Toker, presented as a poster RAST2005 (International Conference on Recent Advances in Space Technologies), June 9-11 2005, Istanbul

“MEMS and its applications”, L. Trabzon, Department of Mechanical Engineering, Yeditepe University, Invited Talk, February 04 (2005)

“Nanomaterials and Their Applications”, L. Trabzon, Spring Seminers of ITU ME, March 18th, 2004

“The Utilization and Effect of Plasma Exposure on Materials Properties of Low-k Polymers in Microelectronics**",** L. Trabzon and O. O. Awadelkarim, ASME International ESDA 2002-July

“New Trends in ULSI: Integration of Low-k into CMOS Processing” L. Trabzon, The Physics Department, Koc University, Math-Science Seminar, April 20 (2001)

" A Material Challenge in ULSI: Integration of low-k and its impact on MOSFET’s performance and reliability"
L. Trabzon, Department of Electronics Engineering, ISIK University, Invited Talk, March 23 (2001)

" Material Property and Device Performance Measurements for The Assessment of Low-k Polymers as Interlayer Dielectric "
L. Trabzon, O. O. Awadelkarim and J. Werking, 1st International Conference On Advanced Materials and Processes for Microelectronics (ICAMPM), in March 15-18 (1999)

"The Dependence of Sub-Half-Micron Transistor’s Performance on Interlayer Dielectric Processing"
L. Trabzon, O. O. Awadelkarim and J. Werking, 1st International Conference On Advanced Materials and Processes for Microelectronics (ICAMPM), in March 15-18 (1999)

"Observation of degradation effects in MOSFETs from interlayer dielectric processing "
L. Trabzon and O. O. Awadelkarim, Conference of SES (Society of Engineering Science), September 27th (1998)

"Stacked-Gate Oxides and Electrical Characterization"
L. Trabzon, Research Conference at IBM, T.J. Watson Research Center, August 5th (1998)

"Electrical stress simulation of plasma damage to submicron MOSFETs; a comparison between dc and ac stress"
L. Trabzon and O. O. Awadelkarim; Presented at The National American Vacuum Science Society Symposium, Philadelphia PA, October (1996)

"Annealing of AC stress induced damage; a comparison with DC stress induced damage" presented at SEMATECH, Austin, in August 5th, (1996)

"Sinusoidal AC stressing of the oxide and oxide/silicon interface" presented at UCLA in May 16th (1996)

Graduate Thesis Supervised:

“Karbin Nano-Malzemeler Tabanlı Gaz Algılama Mekanizmasının Belirlenmesi ve Uygulamaları”, Mohamad Anas Hejazi, Makina Mühendisliği, Ph.D. 2021 - ?

Low-power, Non-invasive Conformable Optical-based Sensors for Home Assisted Health and Air Quality Monitoring, Aybüke Tavaslı, Material Science and Engineering, Ph.D., 2020-?

“CNT Entegre Mikroakışkan Sistemleri Kullanılarak Bio-Gıda Sensörü Tasarımı, Üretimi ve Geliştirilmesi”, Nagihan Okutan Arslan, Nanoscience and Nanoengineering Graduate Programme, Ph.D. 2014 - ?

"Fabrication of Graphene Quantum Dot Decorated Graphene Heterostructures as Hall Sensor ", Zeynep Burcu Çavdar, Nanoscience and Nanoengineering Graduate Programme, Ph.D., 2019-?

‘Design and Fabrication of a Quantum Dots based Optical Immunosensor in Microfluidic System’, Sultan Şahin, Nanoscience and Nanoengineering Graduate Programme, Ph.D., 2020-?

“Synthesis and Characterization of Graphene Oxide with Enhanced Mechancial Properties”, Zeineb Benzait, Nanoscience and Nanoengineering Graduate Programme, Ph. D. 2015 – 2022

“Fabrication and Characterization of Hybrid Nanofiller Reinforced Polyurethane Nanocomposites”, Amir Navidfar, Mechanical Engineering Graduate Program, Ph.D. 2016 - 2021

‘Development of Mechanic Manufacturing Methods Applied to Casting Materials used in the Aviation Sector’, Burak Alperen Tunç, Mechanical Engineering, M.Sc., 2019-2021

“Synergistic Effect of Nano Particles in Three-dimensional Network of Carbon-based Quantum Dots on Mechanical Properties of Polyurethane Hybrid Nanocomposites”, Makbule Irmak Peker, Mechanical Engineering Graduate Program, M.Sc. 2019 - 2021

‘Investigation of the Effects of Channel Curvature Ratio and Particles’ Concentrations in Curved Microchannels for Passive Particle Separation’, Deniz İnce, Mechanical Engineering, M.Sc., 2018-2019

“Investigation on the Effects of Mechanical Forces on Endothelial and Monocytic Cell Behaviour by using Microfluids Systems”, Semra Zuhal Birol, Nanoscience and Nanoengineering Graduate Programme, Ph. D. 2014 – 2018

"Integration of Microfluidic Chip with a microcontroller system for stabilization of the temperature on the microheater for diagnosis of Tuberculosis infection by Loop Mediated Isothermal Amplification", Zeynep Burcu Çavdar, Nanoscience and Nanoengineering Graduate Programme, M.Sc., 2015-2018

“Tüberküloz Teşhisinde Kullanılmak Üzere Mikroısıtıcı Tasarlanması, Karakterizasyonu ve Üretimi”, Muhammed Bekin, Mechanical Engineering, M.Sc. 2015 - 2017

“Acoustic Properties of Styrene Butadiene Rubber-Isocyante Compositon Renforced with Carbon Nanotubes and Silicon Oxide Nano-Powder”, Alkan Sancak, Nanoscience and Nanoengineering Graduate Programme, M.Sc. 2014 - 2017

“Design, Simulation and Analysis of Piezoresistive Microcantilever for Biosensing Applications”, Amal Ahmad, Nanoscience and Nanoengineering Graduate Programme, M.Sc. 2015 - 2017

“Nanotechnology in Architectural Restoration”, Selale Elcin Sungur, Architectural Graduate Programme, M.Sc., 2013 - 2016

“Acoustic Properties of Polyurethane Composition Reinforced with Carbon Nanotubes and Silicon Oxide Nano-Powder”, Kemal Baran Yıldırım, Nanoscience and Nanoengineering Graduate Programme, M.Sc. 2011 - 2016

“Design, Fabrication and Characterzation of Nano-Si Columnar Structures for Solar Cell Applications” A. Develioğlu, Nanoscience and Nanoengineering Graduate Programme, M.Sc. 2013 - 2016

“Structural and Optical Properties of Modified Titanium Dioxide Based Films Prepared by Sol-gel Dip-coating” H. B. Jalali, Nanoscience and Nanoengineering Graduate Programme, M.Sc. 2013 - 2015

“Simulation of Continous Polysytrene Particle Manipulation with Dielectrophoresis Using Comsol” Y. Genç, Nanoscience and Nanoengineering Graduate Programme, M.Sc. 2012 - 2015

“Mikroakışkan Sistemlerin Tasarımı, Üretimi Ve Partikül Ayrıştırma Karakterizasyonu”, E. Coskuner, Mechanical Engineering, M.Sc., 2010 - 2014

“Cell Seperation in Microfludic Channels” M. Zuvin, Nanoscience and Nanoengineering Graduate Programme, M.Sc. 2010 - 2013

“Micromachining of Si-Wafer with Femtosecond Laser Technology”, S.D. Sofuoglu, Defense Technologies, M.Sc., 2008 - 2011

“Dönel Kanallarda Atalet ve Dean Kuvvetleri Etkisi ile Partikül Ayrıştırma”, A. Ozbey, Mechanical Engineering, M.Sc., 2009 - 2011

“Micro esnek Yükselticinin Tasarımı, Üretimi ve Optimizasyonu”, E. Kosa, Mechanical Engineering, M.Sc., 2008 - 2010

Si-Based 2D and 3D Nano-Sculptured Thin Film Deposition and Characterization, S. Güvendik, Mechanical Engineering, M.Sc., 2006-2009

Design and Simulation of Pull-in Phenomenon of MEMS Switches, H. Tekin, Electronics Engineering, M.Sc., 2005-2007

Design and Analysis of MEMS Based Piezoresistive Pressure Sensor by MultiMEMS Bulk MicroMachining, E. Celik, Mechanical Engineering, M.Sc., 2004-2007

Design and Analysis of a MEMS Based Piezoresistive Flow Sensor, O. Turkmen, Mechanical Engineering, M.Sc., 2004-2006

“The study on materials and mechanical properties of plasma nitrided 316L at low temperatures”
C. İğdil, Mechanical Engineering, M.Sc., 2003-2005

“The design of stent and its production”, E. Arslan, Mechanical Engineering, M.Sc., 2003-2005

“Design and performance analysis of microaccelerometer with three degree of freedom”, O. Erdener, Electronics Engineering, M.Sc., 2003-2005

On the physics of growth of sculptured thin film”, Y. Sener, Materials Science and Engineering, M.Sc., 2003-2005

Undergraduate Thesis Supervised:

"Modelling, Simulation and Experimental Verification of Passive and Active Mixing in Microchannel", Direnç Akyıldız and Yunus Emre Aldı, Mechanical Engineering, 2023

"Fabrication and Characterization of Remotely Controlled MEMS based Modular Analysis System Which is Integrated with Bionanosensor for Separation and Detection of Aflotoxin B1", Onur Nurtan and Baturay Dalgıç, **'The best of the best Innovation Award' and 'Gold Award' in the IAM2021 Innovation competition among 1267 participants from 9 different countries and The first price among 498 competitors in the university category at 7th Başakşehir Living Lab Innovation Competition**

"Design and Fabrication of an Universal Peristaltic Micropump that can ve Integrated with PDMS Based Microchannels for microTAS and Lab-On-A-Chip Applications" Nazım Can Öner, 2020, **Fourth place in national competition on "technology for agriculture" among 763 competitors at Teknofest_2020 - Gaziantep**

"Design and Characterization of Nanocomposite-based Microfluidics Chip Integrated With a Micropump for Particle Seperation", Berke Erbaş and Mehmet Tuğrul Birtek, 2019, **First place among 229 competitors on National Level Competition organized by TUBITAK in the domain of undergraduate thesis competition and First place in Marmara Region based in the undergraduate thesis competition of "Technology for Indispensible Fields and Second place in national competition on "technology for the benefit of humanity" among 600 competitors**

"Investigation of Geometric Parameters in the Design of Curved Microchannel for Passive Particle Separation", Deniz Ince and Ibrahim Ghanem, Mechanical Engineering, 2017

Design and Characterization of a Novel Microchannel Geometry Together with an Integrated Micropump for Continous Inertial Separation and Enrichment of Circulating Tumor Cells", U. M. Sönmez, S. Jaber, 2016, **First Place in the Undergraduate Faculty-Wide Thesis Competition & 2nd Place in the Undergraduate University-Wide Thesis Competition by ITU TechnoPark**

"Design, Fabrication and Characterization of Dielectrophoretic Force Based Microfluidic Systems" H. Turhan, O. Kılınç, H.E. Öztürk, Mechanical Engineering, 2015

"Polimer Tabanlı Kendinden Tahrikli Entegre Mikroparçacık Ayrıştırma Sistemleri Tasarımı, Üretimi ve Karakterizasyonu", U. Say, M. Bekin, A. Özer, Mechanical Engineering, 2014, **Third Place in the Undergraduate Thesis Competition**

"Producing, Designing and Characterizing Polymer Based Microfluidic System to Separate Micro-Particle" A. Acemoğlu, Y. U. Güngör, Y. S. Balcı, Mechanical Engineering, 2013

"Mikroparçacık Ayrıştırması Amacına Uygun Polimer Tabanlı Mikroakışkan Sistem Tasarımı", M. Ordu, B. N. Kaygusuz, Mechanical Engineering, 2012

"Otomotiv Sürücü Hava Yastığı Tasarımı", C. Korkmaz, I. Kalkan, Ruhi Uyar, Mechanical Engineering, 2004