

## Prof. BAHADIR TUNABOYLU

### Personal Information

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### International Researcher IDs

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Publons / Web Of Science ResearcherID: U-9641-2019

Yoksis Researcher ID: 166606

### Education Information

Doctorate, University of California, San Diego, Faculty of Engineering, ECE- Dept of Electrical & Comp. Eng., United States Of America 1991 - 1997

Postgraduate, Alfred University, College of Engineering, Ceramic Engineering, United States Of America 1989 - 1991

Undergraduate, Middle East Technical University, Faculty Of Engineering, Department Of Metallurgical And Materials Engineering, Turkey 1983 - 1988

### Biography

Kaliforniya Üniversitesi elektronik ve bilgisayar mühendisliği- malzeme bilimi programında doktora yaptıktan sonra, silikon vadisinde ve Arizona'da 20 yıla yakın süreyle mikroçip ve nanoteknoloji, test sistemleri, mikroeletromekanik sistemler, nanomalzemeler, yeni üretim teknolojileri alanında ve ürün geliştirme programlarında çalıştı. Bu firmaların Arge bölümlerinde ve şirket yönetiminde bulundu. Yaptığı çalışmalarının sonucunda 23 adet ABD patenti aldı. Lawrence Livermore ve Sandia Labs-ulusal araştırma merkezlerinde nanoteknoloji alanında çalışmalarda bulundu. Intel, Samsung, Texas Instruments, Qualcomm, Toshiba, TRW gibi firmalarla ortak projelerde çalıştı. İstanbul Şehir Üniversitesi'ne 2010 yılında Endüstri Mühendisliği öğretim üyesi olarak katıldı. 2014-2016 yılları arasında TÜBİTAK Marmara Araştırma Merkezi Başkanlığı döneminde geliştirilen 18 ürünün ticarileşmesini sağlayarak ülke sanayicimize kazandırdı. Elektrikli araçlar, batarya - yakıt hücreleri, yenilenebilir enerji, akıllı sistemler, seramik-kompozit malzeme konularında projeler yürüttü. Marmara Üniversitesinde Malzeme Mühendisliği bölümünde Ağustos 2020'den itibaren profesör olarak görevine devam etmektedir.

Tübitak MAM, BİLGEM, Bilişim Vadisi ve Sabancı Üniversitesi SUNUM yönetim kurulu üyelikleri görevlerinde bulundu. BM ilişkili WAITRO Uluslararası Endüstriyel Araştırma Organizasyonları yönetim kurulu üyesi, Ortadoğu ve Kuzey Afrika bölge temsilcisi görevini 2016-2020 arasında yapmıştır. Halen Çevre Vakfı Yönetim Kurulu ve MEB ARGEMER Bilimsel Danışma Kurulu üyesidir. Marmara Üniversitesi'nde Inovasyon ve Teknoloji Transfer programlarını yönetmektedir.

### Dissertations

Doctorate, Synthesis Deposition and Characterization of Ferroelectric Films for Electrooptic Devices, University of California, San Diego, Faculty of Engineering, 1997

Postgraduate, Sintering Microstructure and Mechanical Property Relationships in Silicon Nitride, Alfred University, Ceramic Engineering, 1991

## Research Areas

Material science and engineering

## Academic Titles / Tasks

Professor, Marmara University, Faculty of Engineering, Metallurgical and Material Engineering, 2020 - Continues

Associate Professor, Istanbul Sehir University, Faculty Of Engineering And Natural Sciences, Department Of Industrial Engineering, 2017 - 2019

Assistant Professor, Istanbul Sehir University, Faculty Of Engineering And Natural Sciences, Department Of Industrial Engineering, 2010 - 2012

## Academic and Administrative Experience

Head of Department, Istanbul Sehir University, Faculty Of Engineering And Natural Sciences, Department Of Industrial Engineering, 2017 - 2020

## Advising Theses

Tunaboylu B., Manufacturing process development for lanthanum hexaboride (LaB<sub>6</sub>) thin film filaments, Postgraduate, B.TOPRAK(Student), 2020

Tunaboylu B., Design and simulation of an additional cell balancing stage circuit, Postgraduate, A.BASHAR(Student), 2020

Tunaboylu B., The assessment of microfactory concept to manufacture new generation electric vehicles, Postgraduate, B.ALPTEKİN(Student), 2020

Tunaboylu B., Emerging transition from AC to DC powered homes, Postgraduate, F.SERRA(Student), 2020

Tunaboylu B., Performance and cost analysis of solar systems considering different PV and inverter models, Postgraduate, M.AL(Student), 2019

Tunaboylu B., Environmental and social sustainabilityIndex (ESSI), Postgraduate, A.FAISAL(Student), 2018

Tunaboylu B., Humidity SAW sensors sensitivity enhancement via electrospraying of silver nanowires, Postgraduate, F.SAYAR(Student), 2017

Tunaboylu B., Water and carbon footprints of Turkish energy development plans until 2030, Postgraduate, M.ABDULLAH(Student), 2017

Tunaboylu B., Development of air-breathing polymer electrolyte membrane (PEM) fuel cell for small uav application, Postgraduate, N.UJL(Student), 2015

Tunaboylu B., Characterization of a Li-ion battery based stand-alone a-Si photovoltaic system, Postgraduate, M.HAMID(Student), 2014

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

### I. Mechanisms, diagnosis, and monitoring of biofouling in membrane processes: a review

Saffarimiandoab F., Yavuztürk Gül B., Tasdemir R. S., Mutlu B. K., Ilter S. E., ÜNAL S., TUNABOYLU B., MENCELOĞLU

Y. Z., Vatanpour Sargheim V., Koyuncu İ.

DESALINATION AND WATER TREATMENT, vol.247, pp.40-63, 2022 (SCI-Expanded)

- II. **Surface Modification of Reverse Osmosis Desalination Membranes with Zwitterionic Silane Compounds for Enhanced Organic Fouling Resistance**  
Erkoc-Ilter S., Saffarimiandoab F., Guclu S., Koseoglu-Imer D. Y., TUNABOYLU B., Menciloglu Y., Koyuncu İ., ÜNAL S.  
INDUSTRIAL & ENGINEERING CHEMISTRY RESEARCH, vol.60, no.14, pp.5133-5144, 2021 (SCI-Expanded)
- III. **A review on membrane fouling: membrane modification**  
Saffarimiandoab F., Yavuztürk Gül B., Tasdemir R. S., Ilter S. E., ÜNAL S., TUNABOYLU B., MENCELOĞLU Y. Z., Koyuncu İ.  
DESALINATION AND WATER TREATMENT, vol.216, pp.47-70, 2021 (SCI-Expanded)
- IV. **Evaluation of biofouling behavior of zwitterionic silane coated reverse osmosis membranes fouled by marine bacteria**  
Saffarimiandoab F., Gul B. Y., Erkoc-Ilter S., Guclu S., Unal S., Tunaboyle B., Menciloglu Y. Z., Koyuncu İ.  
PROGRESS IN ORGANIC COATINGS, vol.134, pp.303-311, 2019 (SCI-Expanded)
- V. **Simulation and Experimental Tests of Ballistic Impact on Composite Laminate Armor**  
Soydan A. M., Tunaboyle B., Elsabagh A. G., Sari A. K., Akdeniz R.  
ADVANCES IN MATERIALS SCIENCE AND ENGINEERING, vol.2018, 2018 (SCI-Expanded)
- VI. **Synthesis of CIS (CuInSe<sub>2</sub>) Based Materials for Solar Applications**  
Soydan A. M., Yilmaz P., Tunaboyle B.  
JOURNAL OF CHEMISTRY, vol.2018, 2018 (SCI-Expanded)
- VII. **Air-Cured Fiber-Cement Composite Mixtures with Different Types of Cellulose Fibers**  
Soydan A. M., Sari A. K., Duymaz B., Akdeniz R., Tunaboyle B.  
ADVANCES IN MATERIALS SCIENCE AND ENGINEERING, vol.2018, 2018 (SCI-Expanded)
- VIII. **Space transformer connector characterization for a wafer test system**  
Tunaboyle B.  
INFORMACIJE MIDEM-JOURNAL OF MICROELECTRONICS ELECTRONIC COMPONENTS AND MATERIALS, vol.47, no.4, pp.255-259, 2017 (SCI-Expanded)
- IX. **SAW Humidity Sensor Sensitivity Enhancement via Electro spraying of Silver Nanowires**  
Irani F. S., Tunaboyle B.  
SENSORS, vol.16, no.12, 2016 (SCI-Expanded)
- X. **Power Delivery Performance of Probe Test Systems for Semiconductor Wafers**  
Tunaboyle B.  
IEEE DESIGN & TEST, vol.33, no.6, pp.72-76, 2016 (SCI-Expanded)
- XI. **Performance of Ni-alloy MEMS-probes coated with PdCo films in semiconductor wafer test**  
Tunaboyle B.  
INFORMACIJE MIDEM-JOURNAL OF MICROELECTRONICS ELECTRONIC COMPONENTS AND MATERIALS, vol.46, no.2, pp.82-92, 2016 (SCI-Expanded)
- XII. **A predictive model for wafer probe burn phenomenon**  
Zafer B., Tunaboyle B.  
APPLIED THERMAL ENGINEERING, vol.98, pp.610-616, 2016 (SCI-Expanded)
- XIII. **Experimental characterization of wafer probe burn**  
Zafer B., Tunaboyle B.  
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.24, no.5, pp.3513-3523, 2016 (SCI-Expanded)
- XIV. **Characterization of a Li-ion battery based stand-alone a-Si photovoltaic system**  
Vishkasougheh M. H., Tunaboyle B.  
APPLIED SURFACE SCIENCE, vol.318, pp.324-333, 2014 (SCI-Expanded)
- XV. **Electrical Characterization of Test Sockets With Novel Contactors**  
Tunaboyle B.  
IEEE TRANSACTIONS ON DEVICE AND MATERIALS RELIABILITY, vol.14, no.1, pp.580-582, 2014 (SCI-Expanded)
- XVI. **Simulation of high efficiency silicon solar cells with a hetero-junction microcrystalline intrinsic thin**

**layer**

Vishkasougheh M. H., Tunaboylu B.

ENERGY CONVERSION AND MANAGEMENT, vol.72, pp.141-146, 2013 (SCI-Expanded)

- XVII. **Properties of Ceria Based Novel Anode Nanopowders Synthesized by Glycine-Nitrate Process**  
YILDIZ O., Soydan A. M., Ata A., Tunaboylu B., Akin D., Ipcizade E. F.  
ACTA PHYSICA POLONICA A, vol.123, no.2, pp.432-435, 2013 (SCI-Expanded)
- XVIII. **Testing of Copper Pillar Bumps for Wafer Sort**  
Tunaboylu B.  
IEEE TRANSACTIONS ON COMPONENTS PACKAGING AND MANUFACTURING TECHNOLOGY, vol.2, no.6, pp.985-993, 2012 (SCI-Expanded)
- XIX. **Electrodeposition of multilayer NiMn beams for probes**  
Tunaboylu B.  
MATERIALS LETTERS, vol.70, pp.51-53, 2012 (SCI-Expanded)
- XX. **Characterisation of electroplated NiMn films for wafer probing**  
Tunaboylu B., Theppakuttai S.  
MICRO & NANO LETTERS, vol.7, no.1, pp.45-48, 2012 (SCI-Expanded)
- XXI. **Improved blades for RF testing at wafer**  
Tunaboylu B.  
ELECTRONICS LETTERS, vol.47, no.25, pp.1396-1397, 2011 (SCI-Expanded)
- XXII. **Phase transformation and paired-plate precipitate formation in Pb<sub>0.91</sub>La<sub>0.09</sub>Zr<sub>0.65</sub>Ti<sub>0.35</sub>O<sub>3</sub> films grown on sapphire substrates**  
Tunaboylu B., Ozkan C., Ata A., Ring K., Esener S.  
MATERIALS SCIENCE IN SEMICONDUCTOR PROCESSING, vol.5, pp.199-206, 2002 (SCI-Expanded)
- XXIII. **Precipitate splitting in Pb<sub>0.91</sub>La<sub>0.09</sub>Zr<sub>0.65</sub>Ti<sub>0.35</sub>O<sub>3</sub> films**  
Tunaboylu B., Ring K., Esener S., Ozkan C., Ata A.  
JOURNAL OF MATERIALS RESEARCH, vol.16, no.10, pp.2763-2766, 2001 (SCI-Expanded)
- XXIV. **Synthesis and properties of KTN films by sol-gel deposition and RF-magnetron sputtering**  
Tunaboylu B., Sashital S., Harvey P., Esener S.  
FERROELECTRICS LETTERS SECTION, vol.28, pp.75-84, 2001 (SCI-Expanded)
- XXV. **Phase transformation kinetics in Pb<sub>0.91</sub>La<sub>0.09</sub>Zr<sub>0.65</sub>Ti<sub>0.35</sub>O<sub>3</sub> films**  
Tunaboylu B., McKittrick J., Esener S.  
JOURNAL OF MATERIALS SCIENCE LETTERS, vol.17, no.17, pp.1445-1447, 1998 (SCI-Expanded)
- XXVI. **Characterization of dielectric and electro-optic properties of PLZT 9/65/35 films on sapphire for electro-optic applications**  
Tunaboylu B., Harvey P., Esener S.  
IEEE TRANSACTIONS ON ULTRASONICS FERROELECTRICS AND FREQUENCY CONTROL, vol.45, no.4, pp.1105-1112, 1998 (SCI-Expanded)
- XXVII. **Microstructure of magnetron sputtered PLZT thin films on sapphire**  
Tunaboylu B., Harvey P., Esener S.  
INTEGRATED FERROELECTRICS, vol.19, pp.11-32, 1998 (SCI-Expanded)
- XXVIII. **PRESSURELESS SINTERING AND CHARACTERIZATION OF Si<sub>3</sub>N<sub>4</sub> CONTAINING La<sub>2</sub>O<sub>3</sub>-SrO AS AN ADDITIVE**  
TUNABOYLU B., VARNER J.  
JOURNAL OF MATERIALS SCIENCE LETTERS, vol.14, no.17, pp.1246-1249, 1995 (SCI-Expanded)
- XXIX. **DYNAMIC COMPACTION OF Al<sub>2</sub>O<sub>3</sub>-ZrO<sub>2</sub> COMPOSITIONS**  
TUNABOYLU B., MCKITTRICK J., NELLIS W., NUTT S.  
JOURNAL OF THE AMERICAN CERAMIC SOCIETY, vol.77, no.6, pp.1605-1612, 1994 (SCI-Expanded)
- XXX. **MICROWAVE AND CONVENTIONAL SINTERING OF RAPIDLY SOLIDIFIED Al<sub>2</sub>O<sub>3</sub>-ZrO<sub>2</sub> POWDERS**  
MCKITTRICK J., TUNABOYLU B., KATZ J.  
JOURNAL OF MATERIALS SCIENCE, vol.29, no.8, pp.2119-2125, 1994 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Enhancement of City Liveability Model by Examining Sustainability, Resiliency and Smart City Dimensions**  
YÜKSEL M. A., KILIÇ H. S., TUNABOYLU B.  
International journal of advances in engineering and pure sciences (Online), vol.36, no.3, pp.178-199, 2024 (Peer-Reviewed Journal)
- II. **Thermionic emission behaviors of lanthanum hexaboride coated W/Mo/Ta wires**  
ATİLA H. M., BOZTOPRAK Y., Tunaboylu B.  
BOR DERGİSİ, vol.8, no.3, pp.114-121, 2023 (Scopus)
- III. **Microfactory Model for Manufacturing New Generation Electric Vehicles**  
Tunaboylu B., Alptekin B.  
Sürdürülebilir Çevre Dergisi (Journal of Sustainable Environment), vol.2, no.1, pp.19-37, 2022 (Peer-Reviewed Journal)
- IV. **ENVIRONMENTAL AND SOCIAL SUSTAINABILITY INDEX (ESSI)**  
Faisal A., TUNABOYLU B., Koyuncu I.  
PRESENT ENVIRONMENT AND SUSTAINABLE DEVELOPMENT, vol.14, no.1, pp.325-342, 2020 (ESCI)
- V. **A Competitive Design and Material Consideration for Fabrication of Polymer Electrolyte Membrane Fuel Cell Bipolar Plates**  
Ul H. N., TUNABOYLU B., SOYDAN A. M.  
Designs, vol.3, no.1, pp.13, 2019 (Scopus)
- VI. **Characterization of Fiber-Cement Composites Reinforced with Alternate Cellulosic Fibers**  
SOYDAN A. M., Sari A. K., Duymaz B., AKDENİZ R., TUNABOYLU B.  
Anadolu Üniversitesi Bilim ve Teknoloji Dergisi :A-Uygulamalı Bilimler ve Mühendislik, vol.19, pp.1, 2018 (Peer-Reviewed Journal)
- VII. **Recent progresses on solution-processed silver nanowire based transparent conducting electrodes for organic solar cells**  
Basarir F., Irani F. S., Kosemen A., Camic B. T., Oytun F., Tunaboylu B., Shin H. J., Nam K. Y., Choi H.  
MATERIALS TODAY CHEMISTRY, vol.3, pp.60-72, 2017 (ESCI)
- VIII. **Experimental determination of optimal clamping torque for AB-PEM fuel cell**  
Ul Hassan N., Kilic M., Okumus E., Tunaboylu B., Soydan A. M.  
JOURNAL OF ELECTROCHEMICAL SCIENCE AND ENGINEERING, vol.6, no.1, pp.9-16, 2016 (ESCI)

## Books & Book Chapters

- I. **Future of Lithium Ion Batteries for Electric Vehicles: Problems and Expected Developments**  
Demiryürek R., Ateş M. N., Tunaboylu B.  
in: Towards Industry 5.0. ISPR 2022. Lecture Notes in Mechanical Engineering, Durakbasa, N.M., Gençyılmaz, M.G., Editor, Springer Nature, Zürich, pp.524-540, 2023
- II. **Transition from AC to DC Powered Homes**  
Tunaboylu B., Zaim S., Erkmen T., Çiftçi F. S.  
in: Industrial Engineering in the Internet-of-Things World, F Çalışır, Editor, Springer Nature, Zürich, pp.349-359, 2022
- III. **Blockchain Technology for Supply Chain Management**  
Tunaboylu B., Zaim S., Dursun T., Hasekioğlu O., Birinci F., Alptekin B., Sertkaya İ.  
in: Industrial Engineering in the Internet-of-Things World, Lecture Notes in Management and Industrial Engineering, F Çalışır, Editor, Springer Nature, Zürich, pp.203-217, 2022
- IV. **A Children Retail Company's e-Commerce Warehouse Optimization**  
Tunaboylu B., Zaim S., Bulut M., Altuntaş B., Turhan M.  
in: Industrial Engineering in the Internet-of-Things World, F Çalışır, Editor, Springer Nature, Zürich, pp.303-316,

2021

- V. **A Review on Cell Balancing Techniques and Their Complexity Levels**  
Faisal A., TUNABOYLU B.  
in: Industrial Engineering in the Internet-of-Things World, Çalışır, Fethi, Editor, Springer Nature Switzerland AG, Cham, pp.241-257, 2021
- VI. **Mems Technologies Enabling The Future WaferTest Systems**  
TUNABOYLU B., SOYDAN A. M.  
in: Mems Sensors - Design And Application, Siva Yellampalli, Editor, Intechopen, pp.189-206, 2018

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

- I. **Application of DMAIC Methodology in Semiconductor Manufacturing for Yield Improvement**  
Çeliktaş A., Alımlı D., Haymour M., TUNABOYLU B.  
International Symposium for Production Research, ISPR 2023, Antalya, Turkey, 5 - 07 October 2023, pp.262-274
- II. **INVESTIGATION AND CHARACTERIZATION OF PLA AND ABS MATERIALS FOR 3D PRINTED PARTS FOR AUTO INDUSTRY**  
TUNABOYLU B., moran m.  
6th International Congress on 3D Printing (Additive Manufacturing) Technologies and Digital Industry 2022 (HYBRID), Bükreş, Romania, 22 November 2022
- III. **THE EFFECT OF LATTICE STRUCTURE ON THE PRODUCT MECHANICAL STRENGTH IN 3D PRINTER TECHNOLOGY**  
moran m., TUNABOYLU B.  
6th International Congress on 3D Printing (Additive Manufacturing) Technologies and Digital Industry 2022 (HYBRID), Bükreş, Romania, 22 - 23 November 2022
- IV. **Borlu Filament Üretimi**  
TUNABOYLU B., Özdemir T., Atilla H. M.  
BORON 2022 International Boron Symposium Proceedings, 5 - 7 October 2022, İstanbul, TÜRKİYE, Pp 179-180., İstanbul, Turkey, 5 - 07 October 2022, pp.179-180
- V. **Blockchain Technology for Supply Chain Management**  
Dursun T., Birinci F., Alptekin B., Sertkaya I., Hasekioglu O., TUNABOYLU B., Zaim S.  
Global Joint Conference on Industrial Engineering and Its Application Areas (GJCIE), ELECTR NETWORK, 14 - 15 August 2020, pp.203-217
- VI. **A Children Retail Company's e-Commerce Warehouse Optimization**  
Altuntas B., Bulut M., Turhan M., TUNABOYLU B., Zaim S.  
Global Joint Conference on Industrial Engineering and Its Application Areas (GJCIE), ELECTR NETWORK, 14 - 15 August 2020, pp.303-316
- VII. **A Review on Cell Balancing Techniques and Their Complexity Levels**  
Faisal A., TUNABOYLU B.  
Global Joint Conference on Industrial Engineering and Its Application Areas (GJCIE), ELECTR NETWORK, 14 - 15 August 2020, pp.241-255
- VIII. **Applications and Expectations of Fuel Cells and Lithium Ion Batteries**  
Tunaboylu B., Ateş M. N., Zengin F., Okumuş E.  
Digitizing Production Systems, LNME, Antalya, Turkey, 7 - 09 October 2021, pp.91-106
- IX. **Manufacturing Process Development for Thin-Film Filaments as a New Product**  
TUNABOYLU B., TOPRAK B., ZAİM S., BİNARK A. K., ÖZTÜRK O.  
The International Symposium for Production Research, Turkey, 25 September 2020
- X. **Improving Business Processes of Human Resources Departments in Turkish Technic Inc.**  
Tunaboylu B.  
The International Symposium for Production Research, ISPR 2020: Digital Conversion on the Way to Industry 4.0 , Antalya, Turkey, 24 - 27 September 2020, pp.493-503

- XI. **Smart Manufacturing of Electric Vehicles**  
Tunaboylu B.  
The International Symposium for Production Research, ISPR 2020: Digital Conversion on the Way to Industry 4.0 ,  
Antalya, Turkey, 24 - 27 September 2020, pp.767-773
- XII. **Transition From AC to DC Powered Homes**  
ÇİFTÇİ F. S., TUNABOYLU B., ERKMEN T., ZAİM S.  
VII. GLOBAL CONFERENCE ON ENGINEERING TECHNOLOGY MANAGEMENT, Turkey, 14 - 15 August 2020
- XIII. **Energy performance and cost assessment of different PV systems for a building-integrated application**  
TUNABOYLU B., Albattal M.  
Proc. 5th International Conference on Power Generation Systems and Renewable Energy Technologies (PGSRET),  
26 - 27 August 2019
- XIV. **Environmental and Social Sustainability Index**  
Faisal A., TUNABOYLU B., KOYUNCU İ.  
4th INTERNATIONAL SYMPOSIUM ON ENVIRONMENT AND MORALS, 27 - 29 June 2018
- XV. **Development and technological steps for realization of AB-PEM Fuel cell - a step towards clean & sustainable energy solutions**  
Ul Hassan N., Tunaboylu B., Yasin M.  
4th International Conference on Power Generation Systems and Renewable Energy Technologies (PGSRET),  
Islamabad, Pakistan, 10 - 12 September 2018, pp.104-109
- XVI. **Perspectives of methods of laser monitoring of atmosphere and sea surface**  
Pashayev A., Tunaboylu B., Usta M., Sadixov I., Allahverdiyev K.  
19th International Conference and School on Quantum Electronics (ICSQE) - Laser Physics and Applications,  
Sozopol, Bulgaria, 26 - 30 September 2016, vol.10226
- XVII. **Linear and NLO spectroscopy of GaSe and InSe nanoparticles formed via laser ablation**  
Pashayev A., Tunaboylu B., Allahverdiyev K., Salayev E., Tagiyev B.  
International Conference on Atomic and Molecular Pulsed Lasers XII (AMPL), Tomsk, Russia, 13 - 18 September  
2015, vol.9810
- XVIII. **Effect of laminar flow on probe burn for spring probe**  
ZAFER B., TUNABOYLU B.  
15th IEEE International Conference on Thermal, Mechanical & Multiphysics Simulation, 7 - 09 May 2014
- XIX. **Effect of laminar air flow on probe burn for spring probe**  
Zafer B., Tunaboylu B.  
15th International Conference on Thermal, Mechanical and Multi-Physics Simulation and Experiments in  
Microelectronics and Microsystems, (EuroSimE), Ghent, Belgium, 7 - 09 April 2014
- XX. **Wafer test probe burn modeling and characterization**  
Zafer B., Vishkasougheh M. H., Tunaboylu B.  
14th International Conference on Thermal, Mechanical and Multi-Physics Simulation and Experiments in  
Microelectronics and Microsystems (EuroSimE), Wroclaw, Poland, 14 - 17 April 2013
- XXI. **Wafer test probe burn modeling**  
ZAFER B., TUNABOYLU B.  
NanoTr VIII, Hacettepe Üniversitesi, Turkey, 25 - 29 June 2012
- XXII. **Ferroelectric PLZT thin films deposited by RF triode magnetron sputtering for spatial light modulators**  
Tunaboylu B., Harvey P., Deng F., Fan C., Esener S.  
10th IEEE International Symposium on Applications of Ferroelectrics (ISAF 96), New Jersey, United States Of  
America, 18 - 21 August 1996, pp.675-678
- XXIII. **COMPACTION OF SUBMICRON AND NANOCRYSTALLINE AL<sub>2</sub>O<sub>3</sub>-ZRO<sub>2</sub> CERAMICS**  
MCKITTRICK J., TUNABOYLU B., KATZ J.  
NATO ADVANCED STUDY INST ON MECHANICAL PROPERTIES AND DEFORMATION BEHAVIOR OF MATERIALS  
HAVING ULTRA-FINE MICROSTRUCTURES, Porto Novo, Benin, 28 June - 10 July 1992, vol.233, pp.559-564

XXIV. **AL2O3-ZRO2 CERAMICS WITH SUBMICRON MICROSTRUCTURES OBTAINED THROUGH MICROWAVE SINTERING, PLASMA SINTERING AND SHOCK COMPACTION**  
MCKITTRICK J., TUNABOYLU B., KATZ J., NELLIS W.  
SYMP ON SUBMICRON MULTIPHASE MATERIALS, AT THE 1992 SPRING MEETING OF THE MATERIALS RESEARCH SOC, San-Francisco, Costa Rica, 28 - 30 April 1992, vol.274, pp.149-154

## Expert Reports

### I. Borlu Filament Üretimi- BORON 2022 bildiri

Tunaboylu B.

Marmara University, pp.2, İstanbul, 2022

## Supported Projects

Tunaboylu B., Project Supported by Higher Education Institutions, Çok katmanlı ve katkılı elmas benzeri karbon (DLC) kaplamaların üretimi ve karakterizasyonu, 2023 - 2025

Tunaboylu B., TUBITAK Project, 1513 MÜ Teknoloji Transfer Programı, 2021 - 2025

Tekiner Moğulkoç H., Tunaboylu B., Ulukuş M. Y., Bilsel M., TUBITAK Project, Elektrikli Araçların Elektrik Üretim Genisletme Problemine Entegrasyonu Ve Optimum Araç Penetrasyon Seviyelerinin Belirlenmesi, 2021 - 2024

Özdemir M. R., Şener R., Tunaboylu B., Technopark, Ergitme fırınlarında Susuz Boraks üretiminde verimin artırılması için sistem ve malzemelerin geliştirilmesi, 2022 - 2023

Tunaboylu B., Energy and Natural Resources Ministry, Ergitme fırınlarında Susuz Boraks Üretiminin İyileştirilmesi, 2022 - 2023

Tunaboylu B., BOREN, Ulusal Bor Araştırma Enstitüsü Projesi, Manufacturing of Boron-based Filament , 2020 - 2022

Tunaboylu B., Erol E., TUBITAK Project, Proje: SAYEM- İDA OTO-SEVK Projesi, İnsansız Deniz Araçlarının Otonom Çalışabilmesi İçin Ölçüm, Test ve Seyrüsefer Amaçlı Kontrol Birimi Geliştirme Yol Haritası, 2019 - 2020

Tunaboylu B., Gunay D. E., TUBITAK Project, Proje: 113M580 Biyo-Uygulamalar İçin Seramik Kompozit Malzemelerin Geliştirilmesi, 2015 - 2018

Tunaboylu B., Kayıhan A., TUBITAK Project, 113G001 E Sınıfı 130MW Bir Gaz Türbininde 1 Set Rotor ve 1 Set Stator 3. Kademe Türbin Kanadının Hassas Döküm Yöntemi ile Gelistirilmesi ve Üretimi, 2015 - 2018

Tunaboylu B., Energy and Natural Resources Ministry, HES - Obruk/Keban Barajları Danışmanlık Projesi (Hes Obruk-Keban Barajı Francis Türbini Rehabilitasyonu), 2014 - 2017

Tunaboylu B., TUBITAK Project, Elektrikli Araç Geliştirilmesi, 2015 - 2016

Tunaboylu B., Project Supported by Other Official Institutions, Proje: 5152702 Elektrikli Araç Geliştirilmesi, 2015 - 2016

Tunaboylu B., FP7 Project, International Reintegration Grant IRG Grant 271545, 2011 - 2016

Tunaboylu B., Ata A., TÜBİTAK - AB COST Project, Proje No: 112M729, TOLPE: Yeşil Ulaşımında Kullanılacak Li-Polimer Bataryalarda Verimlilik Arttırma Amaçlı Isıl Yönetim, 2012 - 2014

Tunaboylu B., Project Supported by Private Organizations in Other Countries, EDB Grant S07588582 and SV Probe Pte Ltd Singapore, 2008 - 2010

Tunaboylu B., Project Supported by Private Organizations in Other Countries, advanced MEMS probe card development projects in Kulicke and Soffa Industries and SV Probe Inc ABD, 2003 - 2006

## Patent

Tunaboylu B., Modular space transformer for fine pitch vertical probing applications, Patent, CHAPTER H Electricity, The Invention Registration Number: 8430676 , Standard Registration, 2013

Tunaboylu B., Approach for assembling and repairing probe assemblies using laser welding, Patent, CHAPTER H Electricity, The Invention Registration Number: US 8299394 , Standard Registration, 2012



Tunaboyle B., Probe with stacked substrate, Patent, CHAPTER H Electricity, The Invention Registration Number: US 7898276 , Standard Registration, 2011

Tunaboyle B., probe card assembly with interposer probes, Patent, CHAPTER H Electricity, The Invention Registration Number: US8058887 , Standard Registration, 2011

Tunaboyle B., Approach for cantilever probes, Patent, CHAPTER F Mechanical engineering; Lighting; Heating; Weaponry; Destroyed Materials, The Invention Registration Number: US7721430 , Standard Registration, 2010

Tunaboyle B., Low Force Interconnects for Probe Cards, Patent, CHAPTER H Electricity, The Invention Registration Number: 7733104 , Standard Registration, 2010

Tunaboyle B., US7675302 Probe card assembly and method of attaching probes, Patent, CHAPTER H Electricity, The Invention Registration Number: US7675302 , Standard Registration, 2010

Tunaboyle B., Probe test card with flexible interconnect structure, Patent, CHAPTER H Electricity, The Invention Recourse Number: 12/353879 , Standard Registration, 2010

Tunaboyle B., Beam assembly method for large are array multibeam dut probe cards, Patent, CHAPTER F Mechanical engineering; Lighting; Heating; Weaponry; Destroyed Materials, The Invention Registration Number: US7637006 , Standard Registration, 2009

Tunaboyle B., Automated probe card planarization and alignment methods and tools, Patent, CHAPTER F Mechanical engineering; Lighting; Heating; Weaponry; Destroyed Materials, The Invention Registration Number: US7583098 , Standard Registration, 2009

Tunaboyle B., Approach for fabricating cantilever probes for probe card assemblies, Patent, CHAPTER F Mechanical engineering; Lighting; Heating; Weaponry; Destroyed Materials, The Invention Registration Number: US7637007 , Standard Registration, 2009

Tunaboyle B., Probe tip plating, Patent, CHAPTER C Chemistry; Metallurgy, The Invention Registration Number: US7638028 , Standard Registration, 2009

Tunaboyle B., 7495459 - Probe card assembly with a dielectric strip structure coupled to a side of at least a portion of the probes, Patent, CHAPTER H Electricity, The Invention Registration Number: 7495459 , Standard Registration, 2009

Tunaboyle B., Blade probe and blade probe card, Patent, CHAPTER H Electricity, The Invention Registration Number: US7432728 , Standard Registration, 2008

Tunaboyle B., Method of shaping lithographically-produced probe elements, Patent, CHAPTER F Mechanical engineering; Lighting; Heating; Weaponry; Destroyed Materials, The Invention Registration Number: US7462800 , Standard Registration, 2008

Tunaboyle B., Probe repair methods, Patent, CHAPTER H Electricity, The Invention Registration Number: US7437813 , Standard Registration, 2008

Tunaboyle B., Probe Pad Structure in a ceramic space transformer, Patent, CHAPTER H Electricity, The Invention Registration Number: US7374811 , Standard Registration, 2008

Tunaboyle B., Probe Card Assembly with Dielectric Structure, Patent, CHAPTER H Electricity, The Invention Registration Number: US7279911 , Standard Registration, 2007

Tunaboyle B., substrate with conductive layer, Patent, CHAPTER H Electricity, The Invention Registration Number: US patent No: 7180315 , Standard Registration, 2007

Tunaboyle B., 7271602 - Probe card assembly and method of attaching probes to the probe card assembly, Patent, CHAPTER H Electricity, The Invention Registration Number: 7271602 , Standard Registration, 2007

Tunaboyle B., Method and apparatus for probe tip cleaning and shaping pad, Patent, CHAPTER C Chemistry; Metallurgy, The Invention Registration Number: US6908364 , Standard Registration, 2005

## **Activities in Scientific Journals**

Journal of Sustainable Environment (Sürdürülebilir Çevre Dergisi), Publication Committee Member, 2021 - Continues

## **Memberships / Tasks in Scientific Organizations**

TÜBİTAK Ulusal Metroloji Enstitüsü, Member of Advisory Board, 2023 - Continues, Turkey  
SIRIM International Industrial Research Advisory Council (I-IRAC) , Member of Advisory Board, 2022 - Continues, Malaysia  
MEB Özel Program/Proje Uygulayan Okullar Danışma Kurulu, Member of Advisory Board, 2021 - Continues, Turkey  
ODTÜ GÜNAM Danışma Kurulu, Member of Advisory Board, 2021 - Continues, Turkey  
Dünya Araştırma Organizasyonları Ortadoğu ve Kuzey Afrika Bölge Temsilcisi, World Association of Industrial and Technological Research Organizations (WAITRO) WAN, Member of Advisory Board, 2021 - Continues, Germany  
Çevre Vakfı, Board Member, 2018 - Continues, Turkey  
Dünya Araştırma Organizasyonları Ortadoğu ve Kuzey Afrika Bölge Temsilcisi, World Association of Industrial and Technological Research Organizations (WAITRO), Member of the Board of Trustees, 2016 - 2020, Germany  
TÜBİTAK Bilişim ve Bilgi Güvenliği İleri Teknolojiler Araştırma Merkezi, Board Member, 2014 - 2020, Turkey  
Muallimköy Teknoloji Geliştirme Bölgesi Yönetici Anonim Şirketi (Bilişim Vadisi) , Executive Board Member, 2014 - 2016, Turkey  
MAM Yönetim Kurulu, Chairman, 2014 - 2016, Turkey  
Ulusal Metroloji Enstitüsü, Chairman of the Board, 2014 - 2015, Turkey

## Scientific Refereeing

SUSTAINABILITY, SCI Journal, November 2022  
Gazi University Journal of Science Part A: Engineering and Innovation, Other Indexed Journal, October 2022  
INDIAN JOURNAL OF SCIENCE AND TECHNOLOGY, Other Indexed Journal, September 2022  
The International Symposium For Production Research 2022, Chapter Scientific / Professional Book Published by Renowned Publishing Houses, July 2022  
The International Symposium for Production Research 2022, Chapter Scientific / Professional Book Published by Renowned Publishing Houses, July 2022  
The International Symposium For Production Research 2022, Chapter Scientific / Professional Book Published by Renowned Publishing Houses, July 2022  
The International Symposium For Production Research 2022, Chapter Scientific / Professional Book Published by Renowned Publishing Houses, July 2022  
BOR DERGİSİ, National Scientific Refreed Journal, July 2022  
Sustainability, Other Journals, July 2022  
Journal of Sustainable Environment, Other journals, May 2022  
BOR DERGİSİ, National Scientific Refreed Journal, November 2021  
Academia Letters, Other journals, August 2021  
Academia letters, Other journals, July 2021  
Academia Letters, Other journals, June 2021  
TURKISH JOURNAL OF CHEMISTRY, Journal Indexed in SCI-E, April 2021  
TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, Marmara University, Turkey, April 2021  
Current Microwave Chemistry, Other Indexed Journal, September 2020

## Scientific Consultations

Advisory Board Member, METU Solar Energy Application and Research Center (ODTÜ GÜNAM), Scientific Consultancy, Marmara University, Faculty of Engineering, Metallurgical and Material Engineering, Turkey, 2021 - Continues  
SIRIM International Industrial Research Council (I-IRAC), Scientific Consultancy, Marmara University, Faculty of Engineering, Metallurgical and Material Engineering, Turkey, 2022 - 2024

## **Tasks In Event Organizations**

Tunaboylu B., The International Symposium for Production Research 2022, Scientific Congress, Antalya, Turkey, Ekim 2022

## **Metrics**

Publication: 69

Citation (WoS): 262

Citation (Scopus): 292

H-Index (WoS): 10

H-Index (Scopus): 10

## **Congress and Symposium Activities**

ISPR 2022, Session Moderator, Antalya, Turkey, 2022

## **Awards**

Tunaboylu B., En İyi Makale Ödülü (Dergi Best Paper Award), Ieee , May 2012

Tunaboylu B., En ilham Verici Sunum Ödülü, Ieee Semiconductor West Test Workshop, June 2010

Tunaboylu B., Intel Üstün Hizmet Ödülü (Intel Recipient of Award and Certificate from Intel Tool Operations, Outstanding Service and Support), 2005 - 2006 , Intel, December 2005

## **Non Academic Experience**

TÜBİTAK

TUBITAK, Merkez

TUBITAK, Malzeme Enstitüsü

Company, Nidec SV TCL, USA

SV Probe Inc, ABD

Kulicke and Soffa Industries Inc, ABD

Company, Kulicke and Soffa , Test

Cerprobe Inc, ABD

University of California, San Diego

Türk Standartları Enstitüsü