

## Asst. Prof. ERKAN KAÇAR

### Personal Information

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### International Researcher IDs

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### Education Information

Doctorate, Istanbul Technical University, Fen Bilimleri Enstitüsü, Malzeme Bilimi Ve Mühendisliği (Dr), Turkey 2014 - 2022

Postgraduate, Istanbul Technical University, Fen Bilimleri Enstitüsü, Malzeme Bilimi Ve Mühendisliği (YI) (Tezli), Turkey 2011 - 2013

Undergraduate, Ondokuz Mayıs University, Fen-Edebiyat Fakültesi, Fizik Bölümü, Turkey 2001 - 2006

### Dissertations

Doctorate, Çelik üzerinde titanyum karbür katmanlarının katodik ark fbb temelli yayındırma yöntemi ile üretilmesi, Istanbul Technical University, Fen Bilimleri Enstitüsü, Malzeme Bilimi Ve Mühendisliği (Dr), 2022

Postgraduate, Katodik ark fiziksel buhar biriktirme yöntemi ile niyobyum-titanyum alaşımlarının üretimi, Istanbul Technical University, Fen Bilimleri Enstitüsü, Malzeme Bilimi Ve Mühendisliği (YI) (Tezli), 2014

### Research Areas

Metallurgical and Materials Engineering, Material science and engineering

### Academic Titles / Tasks

Assistant Professor, Hakkari University, Mühendislik Fakültesi, Malzeme Bilimi ve Mühendisliği, 2023 - Continues

Research Assistant, Hakkari University, Mühendislik Fakültesi, Malzeme Bilimi ve Mühendisliği, 2020 - 2023

Research Assistant, Istanbul Technical University, Fen Bilimleri Enstitüsü, Malzeme Bilimi Ve Mühendisliği (YI) (Tezli), 2011 - 2020

Research Assistant, Hakkari University, Mühendislik Fakültesi, Malzeme Bilimi ve Mühendisliği, 2009 - 2011

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

- Surface analysis of (Ti,Mg)N coated bone fixation devices following the rabbit femur surgery**  
Sabouni K., Öztürk Y., KAÇAR E., Kose G. T., Kök F. N., Kazmanlı M. K., Ürgen M. K., ÖNDER S.  
Bio-Medical Materials and Engineering, vol.34, no.5, pp.459-472, 2023 (SCI-Expanded)

- II. **Effect of MWCNTs addition on structural, mechanical, and bio properties of electrophoretically deposited HA-Ta<sub>2</sub>O<sub>5</sub> coating on NiTi**  
Horandghadim N., Khalil-Allafi J., Ghazanfar-Ahari Y., KAÇAR E.  
Surface and Coatings Technology, vol.450, 2022 (SCI-Expanded)
- III. **Tic production on steel with cathodic arc based -diffusion process**  
KAÇAR E., Ürgen M. K.  
Surface Engineering, vol.38, no.2, pp.150-157, 2022 (SCI-Expanded)
- IV. **Assessment of bone healing using (Ti,Mg)N thin film coated plates and screws: Rabbit femur model**  
Sabouni K., Öztürk Y., KAÇAR E., Mutlu H. S., SOLAKOĞLU S., Kose G. T., Kök F. N., Kazmanlı M. K., Ürgen M. K., ÖNDER S.  
Journal of Biomedical Materials Research - Part B Applied Biomaterials, vol.109, no.2, pp.227-237, 2021 (SCI-Expanded)
- V. **On the Erosive Wear of Carbon Fiber-Reinforced Epoxy Composite in the Olive Oil Extraction Process**  
Sakka M., Bahri A., KAÇAR E., Elleuch K., Ürgen M. K.  
Journal of Tribology, vol.142, no.7, 2020 (SCI-Expanded)
- VI. **Biomechanical compatibility and electrochemical stability of HA/Ta<sub>2</sub>O<sub>5</sub> nanocomposite coating produced by electrophoretic deposition on superelastic NiTi alloy**  
Horandghadim N., Khalil-Allafi J., KAÇAR E., Ürgen M. K.  
Journal of Alloys and Compounds, vol.799, pp.193-204, 2019 (SCI-Expanded)
- VII. **Aluminising of steel with a cathodic arc plasma based method**  
Çelikel T., KAÇAR E., Ürgen M. K.  
Transactions of the Institute of Metal Finishing, vol.97, no.3, pp.140-145, 2019 (SCI-Expanded)
- VIII. **Wear protection potential of TiN coatings for 304 stainless steels used in rotating parts during olive oil extraction**  
Bahri A., KAÇAR E., Akkaya S., Elleuch K., Ürgen M. K.  
Surface and Coatings Technology, vol.304, pp.560-566, 2016 (SCI-Expanded)

### Articles Published in Other Journals

- I. **Surface Alloying Of Titanium With Nickel By Using Cathodic Arc Based Plasma Treatment**  
SEZGİN N., KAÇAR E., KAZMANLI M. K., ÜRGEN M. K.  
SAKARYA UNIVERSITY JOURNAL OF SCIENCE, vol.22, no.5, pp.1181-1189, 2018 (Peer-Reviewed Journal)

### Refereed Congress / Symposium Publications in Proceedings

- I. **Effect of Substrate Bias on Mechanical Properties of Magnetron Sputtered AlTiN-B<sub>4</sub>C Films**  
KISACIK Ö., YILDIRIM C., KAÇAR E., TURAN S., SÜRDEM S.  
21st International Metallurgy and Materials Congress, İstanbul, Turkey, 6 October - 08 December 2022
- II. **Determination of Corrosion Initiation Sites on TiN Coated Steels and Their Propagation with Ferroxy Test and AC Impedance Measurements**  
ER D., KAÇAR E., ÜRGEN M. K.  
Electrochemistry Conference -2019, 30 September - 02 October 2019
- III. **Corrosion and corrosion protection properties of a binary Al-Fe alloys produced with a cathodic arc PVD based method**  
ÜRGEN M. K., KAÇAR E., EROĞLU B.  
Past, present and future of Corrosion and light metal surface science, 24 May 2019
- IV. **Investigation of the Formation of Ni-Ti Intermetallic Layers Produced by Cathodic Arc Electron-metal Ion Treatment**

SEZGİN N., KAÇAR E., KAZMANLI M. K., ÜRGEN M. K.

45th ICMCTF 2018, 23 - 27 April 2018

- V. **Structural and Tribological Properties of Mixed Iron-Titanium Borides Produced with Cathodic Arc Assisted Alloying and Electrochemical Boriding**  
KAÇAR E., YELKARASI Ç., TİMUR S. İ., ÜRGEN M. K.  
45th ICMCTF 2018, 23 - 27 April 2018
- VI. **Microstructure, hardness and morphological investigation of iron aluminides produced by a CA-PVD based diffusion process**  
KAÇAR E., İPEKSAÇ T., ÜRGEN M. K.  
8. International Advance Technologies Symposium, Elazığ, Turkey, 19 - 22 October 2017
- VII. **A powerful tool: Changing the mode and magnitude of bias voltage in cathodic arc systems for tuning the properties of hard coatings and surface alloying**  
ÜRGEN M. K., GÖLNAZ T. P. A., KAÇAR E., AKKAYA S.  
HyMap 2017, The 4th International Symposium on Hybrid Materials and Processing, 5 - 08 November 2017
- VIII. **Utilization of Cathodic arc Aluminum Plasma for the Production of Iron rich Aluminides on Carbon steels**  
KAÇAR E., İPEKSAÇ T., YELKARASI Ç., ÜRGEN M. K.  
HyMap 2017, The 4th International Symposium on Hybrid Materials and Processing, 5 - 08 November 2017
- IX. **PRODUCTION OF HARD TITANIUM CARBIDE THICK FILMS ON STEEL SUBSTRATE VIA CAPVD BASED NOVEL APPROACH**  
KAÇAR E., YELKARASI Ç., ÜRGEN M. K.  
INTERNATIONAL MATERIALS TECHNOLOGIES AND METALLURGY CONFERENCE 2017, 26 - 27 October 2017
- X. **The Effect of Using Pulse Bias Voltage on the Stress Level and Hardness of TiN Coatings Produced via Cathodic Arc Method**  
TAGHAVI POURIAN AZAR G., KAÇAR E., ÜRGEN M. K.  
STRESS'16 Stress evolution in thin film and coatings: from fundamental understanding to control, CHICAGO, United States Of America, 2 - 05 October 2016
- XI. **Aluminizing of steel surfaces at high temperatures by using cathodic arc PVD**  
İPEKSAÇ T., KAÇAR E., ÜRGEN M. K.  
IMMC'16 Istanbul-TR, İstanbul, Turkey, 29 September - 01 October 2016
- XII. **Stress evolution in thin film and coatings from fundamental understanding to control The Effect of Using Pulse Bias Voltage on the Stress Level and Hardness of TiN Coatings Produced via Cathodic Arc Method**  
Taghavi Pourian Azar G., KAÇAR E., ÜRGEN M. K.  
Stress'16 Chicago -ABD, 2 - 10 October 2016
- XIII. **Calvanic corrosion investigations of TiN steel and TiN stainless steel couples**  
AVCI B., KAÇAR E., ÜRGEN M. K.  
EUROCORR 2016, Montpellier, France, 11 - 15 September 2016
- XIV. **Galvanic corrosion investigations of TiN steel and TiN stainless steel couples**  
AVCI B., KAÇAR E., ÜRGEN M. K.  
Eurocorr 2016, Advances in linking science to engineering, Montpellier, France, 11 - 15 September 2016
- XV. **PRODUCTION OF NbTi ALLOYS WITH CATHODIC ARC PVD USING AC BIAS VOLTAGE**  
KAÇAR E., ÜRGEN M. K., ÖNCEL S.  
2nd International Surface Treatment Symposium, İstanbul, Turkey, 25 - 27 July 2014

## Metrics

Publication: 24

Citation (Scopus): 54

H-Index (Scopus): 2