

## Assoc. Prof. İpek Akın Karadayı

### Personal Information

Office Phone: [+90 212 285 6895](tel:+902122856895)

Fax Phone: [+90 212 285 3427](tel:+902122853427)

Email: [akinipe@itu.edu.tr](mailto:akinipe@itu.edu.tr)

Web: <https://avesis.itu.edu.tr/akinipe>

### Education Information

Doctorate, Istanbul Technical University, Fen Bilimleri Enstitüsü, Metalurji Ve Malzeme Mühendisliği (Dr), Turkey 2005 - 2010

Postgraduate, Istanbul Technical University, Fen Bilimleri Enstitüsü, Seramik (YI), Turkey 2003 - 2005

Undergraduate, Anadolu University, Faculty Of Engineering, Department Of Materials Science And Engineering, Turkey 1998 - 2003

### Foreign Languages

English

### Dissertations

Doctorate, ZrB<sub>2</sub> esaslı kompozitlerin spark plazma sinterleme (SPS) yöntemi ile üretimi ve karakterizasyonu, İstanbul Teknik Üniversitesi, Fen Bilimleri Enstitüsü, Metalurji Ve Malzeme Mühendisliği (Dr), 2010

Postgraduate, Potasyum mikası ve florapatit içeren cam seramiklerin kristalizasyon davranışları, işlenebilirlik özellikleri üzerine değişen oranda çekirdeklenme katalisti (TiO<sub>2</sub>) ilavesinin etkisinin incelenmesi ve , İstanbul Teknik Üniversitesi, Fen Bilimleri Enstitüsü, Seramik (YI), 2005

### Research Areas

Metallurgical and Materials Engineering, Material science and engineering, Ceramic Materials, Glass Technology and Glass Ceramics, Biomaterials, Engineering and Technology

### Academic Titles / Tasks

Associate Professor, Istanbul Technical University, Kimya-Metalurji, Metalurji Ve Malzeme Mühendisliği, 2017 - Continues

Assistant Professor, Istanbul Technical University, Kimya-Metalurji, Metalurji Ve Malzeme Mühendisliği, 2012 - 2017

Lecturer PhD, Istanbul Technical University, Kimya-Metalurji, Metalurji Ve Malzeme Mühendisliği, 2011 - 2012

Research Assistant, Istanbul Technical University, Kimya-Metalurji, Metalurji Ve Malzeme Mühendisliği, 2004 - 2011

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

1. Effects of graphene nanoplatelets and hexagonal boron nitride on spark plasma sintered (Zr,Nb)B-2

## **solid solutions**

Akarsu M. K. , Akin Karadayı İ.

JOURNAL OF ALLOYS AND COMPOUNDS, vol.884, 2021 (Journal Indexed in SCI)

- II. **Comparative study of reactive and nonreactive spark plasma sintering routes for the production of TaB<sub>2</sub>-TaC composites**  
Kaplan Akarsu M., Akin Karadayı İ., Şahin F., Göller G.  
INTERNATIONAL JOURNAL OF APPLIED CERAMIC TECHNOLOGY, 2021 (Journal Indexed in SCI)
- III. **Phase analysis, mechanical properties and in vitro bioactivity of graphene nanoplatelet-reinforced silicon nitride-calcium phosphate composites**  
Bozkurt D., Akarsu M. K. , Akin Karadayı İ., Göller G.  
JOURNAL OF ASIAN CERAMIC SOCIETIES, 2021 (Journal Indexed in SCI)
- IV. **Mechanical properties and oxidation behavior of spark plasma sintered (Zr, Ti)B<sub>2</sub> ceramics with graphene nanoplatelets**  
Akarsu M. K. , Akin Karadayı İ.  
CERAMICS INTERNATIONAL, vol.46, no.16, pp.26109-26120, 2020 (Journal Indexed in SCI)
- V. **Production and characterization of TZM based TiC or ZrC reinforced composites prepared by spark plasma sintering (SPS)**  
Tuzemen C., Yavaş B., Akin Karadayı İ., Yücel O., Şahin F., Göller G.  
JOURNAL OF ALLOYS AND COMPOUNDS, vol.781, pp.433-439, 2019 (Journal Indexed in SCI)
- VI. **Effects of SiC and SiC-GNP additions on the mechanical properties and oxidation behavior of NbB<sub>2</sub>**  
Akin Karadayı İ., Ocak B. C. , Şahin F., Göller G.  
JOURNAL OF ASIAN CERAMIC SOCIETIES, vol.7, no.2, pp.170-182, 2019 (Journal Indexed in SCI)
- VII. **Spark plasma sintered ZrC-TiC-GNP composites: Solid solution formation and mechanical properties**  
OCAK B. C. , Yavaş B., Akin İ., Şahin F., Göller G.  
Ceramics International, vol.44, no.2, pp.2336-2344, 2018 (Journal Indexed in SCI Expanded)
- VIII. **Microstructures and properties of silicon carbide- and graphene nanoplatelet-reinforced titanium diboride composites**  
Akin Karadayı İ., Kaya Ö.  
JOURNAL OF ALLOYS AND COMPOUNDS, vol.729, pp.949-959, 2017 (Journal Indexed in SCI Expanded)
- IX. **Spark plasma sintered Al<sub>2</sub>O<sub>3</sub>-YSZ-TiO<sub>2</sub> composites: Processing, characterization and in vivo evaluation**  
Ormanci O., AKIN İ., Şahin F., YUCEL O., SIMON V., CAVALU S., GOLLER G.  
Materials Science and Engineering C, vol.40, pp.16-23, 2014 (Journal Indexed in SCI Expanded)
- X. **Oxygen loss in A site deficient Sr<sub>0.85</sub>La<sub>0.10</sub>TiO<sub>3</sub> perovskite**  
Akin Karadayı İ., LI M., LU Z., SINCLAIR D. C.  
RSC Advances, vol.4, no.61, pp.32549-32554, 2014 (Journal Indexed in SCI Expanded)
- XI. **Surface modification of alumina/zirconia ceramics upon different fluoride-based treatments**  
Cavalu S., BANICA F., SIMON V., AKIN İ., Göller G.  
International Journal of Applied Ceramic Technology, vol.11, no.2, pp.402-411, 2014 (Journal Indexed in SCI Expanded)
- XII. **Adherence properties of acrylic bone cement to alumina ceramics designed for clinical applications**  
Cavalu S., Simon V., Akin İ., Goller G.  
Acta Physica Polonica A, vol.125, no.2, pp.603-605, 2014 (Journal Indexed in SCI Expanded)
- XIII. **Adherence Properties of Acrylic Bone Cement to Alumina Ceramics Designed for Clinical Applications**  
cavalu s., simon v., AKIN KARADAYI İ., Göller G.  
ACTA PHYSICA POLONICA A, vol.0, 2013 (Journal Indexed in SCI Expanded)
- XIV. **Spark plasma sintering of B<sub>4</sub>C-SiC composites**  
Sahin F., APAK B., AKIN İ., KANBUR H. E. , GENCKAN D. H. , TURAN A., GOLLER G., YUCEL O.  
Solid State Sciences, vol.14, no.11-12, pp.1660-1663, 2012 (Journal Indexed in SCI Expanded)
- XV. **Mechanical and oxidation behavior of spark plasma sintered ZrB<sub>2</sub>-ZrC-SiC composites**  
Akin İ., Göller G.

- Journal of the Ceramic Society of Japan, vol.120, no.1400, pp.143-149, 2012 (Journal Indexed in SCI Expanded)
- XVI. **Effect of CeO<sub>2</sub> addition on densification and microstructure of Al<sub>2</sub>O<sub>3</sub>-YSZ composites**  
Akin İ., YILMAZ E., Şahin F., YUCEL O., GOLLER G.  
Ceramics International, vol.37, no.8, pp.3273-3280, 2011 (Journal Indexed in SCI Expanded)
- XVII. **Microstructure and ferroelectric properties of spark plasma sintered Li substituted K<sub>0.5</sub>Na<sub>0.5</sub>NbO<sub>3</sub> ceramics**  
Sen C., ALKAN B., AKIN İ., YUCEL O., SAHIN F. C. , Göller G.  
Journal of the Ceramic Society of Japan, vol.119, no.1389, pp.355-361, 2011 (Journal Indexed in SCI Expanded)
- XVIII. **BIOACTIVITY AND ANTIMICROBIAL PROPERTIES OF PMMA Ag<sub>2</sub>O ACRYLIC BONECEMENT COLLAGEN COATED**  
Göller G., AKIN KARADAYI İ., Simon V., Cavalu S.  
DIGEST JOURNAL OF NANOMATERIALS AND BIOSTRUCTURES, vol.6, no.2, pp.779-790, 2011 (Journal Indexed in SCI Expanded)
- XIX. **The Effect of Zirconia Addition on Crystallization Behaviour and Machinability of Potassium Mica and Fluorapatite Glass-Ceramics**  
Ceylan U., Akin Karadayı İ., Göller G.  
HIGH TEMPERATURE MATERIALS AND PROCESSES, vol.29, no.4, pp.305-311, 2010 (Journal Indexed in SCI)
- XX. **In vitro bioactivity characterization of sodium potassium mica and fluorapatite containing glass ceramics**  
GÖLLER G., çekli c., AKIN KARADAYI İ., Demirkesen E.  
Bioceramics, vol.19, pp.188-185, 2007 (Journal Indexed in SCI Expanded)
- XXI. **In vitro bioactivity characterization of machinable glass ceramics containing 85wt Na mica and 15wt fluorapatite**  
GÖLLER G., AKIN KARADAYI İ., kahraman a., Demirkesen E., ÜRGEN M. K.  
BIOCERAMICS 18, vol.0, 2006 (Journal Indexed in SCI Expanded)

## Books & Book Chapters

- I. **Spark Plasma Sintering of Zirconia-Toughened Alumina Composites and Ultra-High Temperature Ceramics Reinforced with Carbon Nanotubes**  
Akin Karadayı İ., Göller G.  
in: Research and Innovation in Carbon Nanotube-Based Composites, Attaf B., Editor, The World Academic Publishing Co. Ltd, Hongkong, pp.215-218, 2015
- II. **Processing Technologies for Bioceramic Based Composites**  
Akin Karadayı İ., Göller G.  
in: Handbook of Bioceramics and Biocomposites, Antoniac I.V., Editor, Springer International Idea Group Publishing (Igp), İsviçre, pp.639-666, 2015

## Supported Projects

- Akin Karadayı İ., Project Supported by Higher Education Institutions, Biyomalzeme Uygulamalarına Yönelik Si<sub>3</sub>N<sub>4</sub>-HA-GNP Kompozitlerinin Üretimi ve Karakterizasyonu, 2018 - 2020
- Akin Karadayı İ., Project Supported by Higher Education Institutions, Grafen ile Güçlendirilmiş Al<sub>2</sub>O<sub>3</sub>-YSZ Kompozitlerinin Üretimi ve Karakterizasyonu, 2015 - 2017
- Akin Karadayı İ., Project Supported by Higher Education Institutions, Silisyum Karbür ve Grafen Nano Partikül İlaveleri ile Titanyum Diborür Seramiklerinin Kırılma Tokluğu ve Oksidasyon Direncinin İyileştirilmesi, 2015 - 2016
- Akin Karadayı İ., Project Supported by Higher Education Institutions, Al<sub>2</sub>O<sub>3</sub>-YSZ-CNT Kompozitlerinin Spark Plazma Sinterleme Yöntemi ile Üretimi ve Karakterizasyonu, 2012 - 2015

## Citations

Total Citations (WOS):238

h-index (WOS):10