

Asst. Prof. Ayşe Çağıl Kandemir

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International Researcher IDs

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Biography

Dr. Ayşe Çağıl Kandemir received her bachelor's (2004-2008) and master's degrees (2008-2011) from METU Metallurgical and Materials Engineering Department. She started her academic career as a research assistant in the same department. She completed her doctoral studies in the Materials Science Department of ETH Zürich between 2011-2016. She worked as a research assistant in ETH Zürich for four years.

Her research interests include composite and nanocomposite materials, surface science/thin films, atomic force microscopy/lithography. Since June 2018, she has been a faculty member at TEDU Mechanical Engineering Department.

Education Information

Doctorate, ETH Zurich, Switzerland 2011 - 2016

Postgraduate, Middle East Technical University, Turkey 2008 - 2011

Undergraduate, Middle East Technical University, Turkey 2003 - 2008

Academic Titles / Tasks

Assistant Professor, TED University, Faculty of Engineering, Department of Mechanical Engineering, 2018 - Continues

Academic and Administrative Experience

Head of Department, TED University, Graduate School, Mechatronics Engineering, 2022 - Continues

Library, 2020 - Continues

Courses

Nanomaterials and Nanotechnology, Undergraduate, 2021 - 2022, 2019 - 2020, 2018 - 2019

Numerical Methods in Engineering, Undergraduate, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019

Composite Materials, Postgraduate, 2021 - 2022

Fundamentals of Composite Materials, Undergraduate, 2022 - 2023, 2019 - 2020, 2018 - 2019

Materials Science, Undergraduate, 2022 - 2023, 2020 - 2021, 2019 - 2020, 2018 - 2019

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Biocompatible organic coating fabrication via polymer/clay nanocomposites: Evaluation of mechanical improvements**
Kandemir A. Ç., Donmez F., Can H. K.
Polymer Composites, vol.45, no.3, pp.2352-2366, 2024 (SCI-Expanded)
- II. **Design and fabrication of polymer micro/nano composites with two-level mechanical reinforcing procedure**
Kandemir A. Ç., Donmez F., Davut K., Can H. K.
Polymer Composites, vol.43, no.7, pp.4609-4625, 2022 (SCI-Expanded)
- III. **Biocompatible nanocomposite production via nanoclays with diverse morphology**
Donmez F., Kandemir A. Ç., Can H. K.
International Journal of Polymer Analysis and Characterization, vol.27, no.3, pp.158-179, 2022 (SCI-Expanded)
- IV. **Gradient nanocomposite printing by dip pen nanolithography**
Kandemir A. Ç., Ramakrishna S. N., Erdem D., Courty D., Spolenak R.
Composites Science and Technology, vol.138, pp.186-200, 2017 (SCI-Expanded)
- V. **Polymer nanocomposite patterning by dip-pen nanolithography**
Kandemir A. Ç., Erdem D., Ma H., Reiser A., Spolenak R.
Nanotechnology, vol.27, no.13, 2016 (SCI-Expanded)
- VI. **Liquid-phase deposition of ferroelectrically switchable nanoparticle-based BaTiO₃ films of macroscopically controlled thickness**
Erdem D., Shi Y., Heiligtag F., Kandemir A. Ç., Tervoort E., Rupp J., Niederberger M.
Journal of Materials Chemistry C, vol.3, no.38, pp.9833-9841, 2015 (SCI-Expanded)
- VII. **Use of zinc borate as the third component of a traditional brominated flame retardant system in acrylonitrile butadiene styrene**
KAYNAK C., Kandemir A. Ç.
Fire and Materials, vol.37, no.7, pp.491-502, 2013 (SCI-Expanded)
- VIII. **Contribution of nanoclays to the performance of traditional flame retardants in ABS**
Kandemir A. Ç., KAYNAK C.
Polymer Composites, vol.33, no.3, pp.420-429, 2012 (SCI-Expanded)

Articles Published in Other Journals

- I. **Effects of Silica/Clay Nanoparticles on Microstructural and Mechanical Properties of Epoxy Based Adhesives**
Dizeci Ş., Kandemir A. Ç.
Hacettepe Journal of Biology and Chemistry, vol.2, no.51, pp.153-161, 2023 (Peer-Reviewed Journal)
- II. **CONTRIBUTION OF MICRO-SILICA AND NANO-MONTMORILLONITE REINFORCEMENTS ON THE MECHANICAL PROPERTIES OF UV-CURABLE THERMOSET RESIN**
Kandemir A. Ç., Baytaroglu A.
ESKİŞEHİR TECHNICAL UNIVERSITY JOURNAL OF SCIENCE AND TECHNOLOGY, vol.23, no.4, pp.233-243, 2022 (Peer-Reviewed Journal)

Refereed Congress / Symposium Publications in Proceedings

- I. **Design and Fabrication of Green Nanocomposites of Poly(N-vinyl pyrrolidone)**

- Kandemir A. Ç., Dönmez F., Kaplan Can H.
3rd International Conference on Polymer Science and Composite Materials, Rome, Italy, 3 - 05 October 2022, pp.13
- II. **Biocompatible Polymer Micro/Nano Composite Fabrication via two-level Mechanical Reinforcement**
Kandemir A. Ç., Dönmez F., Kaplan Can H.
5th Edition of Conference on Nanotechnology, Massachusetts, United States Of America, 12 September 2022, pp.1
- III. **Poly(N-vinyl pyrrolidone) and Tubular/Layered Clay Green Nanocomposites: Synthesis and Characterization**
donmez f., Kandemir A. Ç., Kaplan Can H.
- IV. **Polivinil piroolidon (PVP)/Halloysit Nanokompozitlerin Sentezi ve Karakterizasyonu**
Dönmez F., Kaplan Can H., Kandemir A. Ç.
- V. **Polymer Patterning by Dip Pen Nanolithography**
Kandemir A. Ç., Spolenak R.
- VI. **Polymer and Polymer Nanocomposite Patterning by Dip Pen Nanolithography**
Kandemir A. Ç., Erdem D., Niederberger M., Spolenak R.
- VII. **USING MICRO AND NANO COMPOSITE APPROACHES TO IMPROVE FLAME RETARDANCY OF ABS**
Kaynak C., Ozkaraca A. C., Kandemir A. Ç.
- VIII. **Using micro-and nano-composite approaches to improve flame retardancy of ABS**
KAYNAK C., Kandemir A. Ç.
15th European Conference on Composite Materials: Composites at Venice, ECCM 2012, Venice, Italy, 24 - 28 June 2012
- IX. **Flammability of Recycled Polyethylene Terephthalate with Boron Compounds and Two Traditional Flame Retardants,**
Kandemir A. Ç., Kaynak C.
- X. **Use of Montmorillonite with Traditional Flame Retardants in Acrylonitrile Butadiene Styrene by Nanocomposite Approach**
Kandemir A. Ç., Kaynak C.

Supported Projects

Çakır Hatır (Management Committee) P., Hanay (Management Committee) M. S., Kandemir (Working Groups) A. Ç., TÜBİTAK - AB COST Project, European Network for the Mechanics of Matter at the Nano-Scale (MecaNano), 2022 - 2026

Numanoğlu Genç A., Kökpınar M. A., Baş O., Kandemir A. Ç., Nur Yılmaz G., Kaplan Can H., Gögüş M., TUBITAK Project, Düzenli Ve Düzensiz Şekli Mikroplastik Parçacıkların Çökeltme Hızlarının Deneysel, Sayısal Ve Derin Öğrenmeye Dayanan Yöntemlerle Araştırılması, 2023 - 2025

Dızeci Ş., Kandemir A. Ç., TUBITAK Project, "Farklı Malzemelerin Yapıştırılmasında Kapsayıcı Hasar Tespit Modelinin Geliştirilmesi", 2022 - 2024

Kandemir A. Ç., Project Supported by Higher Education Institutions, Nacre-Mimetic Biofilm Production, 2020 - 2022

Kandemir A. Ç., Dızeci Ş., TUBITAK Project, Biyolojik Sistemlerden Esinlenmiş Hiyerarşik Ölçekli ve Parçacık Yoğunluğuna göre Değişen Polimer Kompozit Üretimi, 2019 - 2022

Demiral O. A., KANDEMİR A. Ç., Project Supported by Higher Education Institutions, Green Nanocomposite Production, 2020 - 2021

Baytaroglu S. A., KANDEMİR A. Ç., Project Supported by Higher Education Institutions, Bioinspired Hierarchical Composites, 2019 - 2020

Scientific Research / Working Group Memberships

Ca21121 - European Network For The Mechanics Of Matter At The Nano-Scale (Mecanano), Belçika,
<https://www.cost.eu/actions/CA21121/>, 2023 - 2026