

Asst. Prof. Ayşe Çağıl Kandemir

Personal Information

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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

Assistant Director of the Institute, TED University, Graduate School, 2023 - 2024

Courses

Nanomaterials and Nanotechnology, Undergraduate, 2023 - 2024, 2021 - 2022, 2019 - 2020, 2018 - 2019

Fundamentals of Composite Materials, Undergraduate, 2023 - 2024, 2022 - 2023, 2019 - 2020, 2018 - 2019

Materials Science, Undergraduate, 2023 - 2024, 2022 - 2023, 2020 - 2021, 2019 - 2020, 2018 - 2019

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

Composite Materials, Postgraduate, 2021 - 2022

Transducer Materials and Technology, Postgraduate, 2019 - 2020, 2018 - 2019

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Comparative fracture surface analysis of adhesively bonded dissimilar lap joints: Nanosilica effect**
Dizeci Ş., Khabaz-Aghdam A., Kandemir A. Ç.
Polymer Composites, vol.45, no.15, pp.13676-13687, 2024 (SCI-Expanded)
- II. **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)
- III. **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)
- IV. **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)
- V. **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)
- VI. **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)
- VII. **Liquid-phase deposition of ferroelectrically switchable nanoparticle-based BaTiO₃ films of macroscopically controlled thickness**
Erdem D., Shi Y., Heiligttag 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)
- VIII. **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)
- IX. **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. **Multi-Scaled Polymer Nanocomposite Fabrication**
Kandemir A. Ç.
8th International Conference on MATERIALS SCIENCE & ENGINEERING, Paris, France, 21 - 22 September 2023, pp.1
- II. **Bioinspired Hierarchical Composite: Balancing Toughness and Strength through Multi-Scale Design**
Kandemir A. Ç., Dizeci Ş., Music O., Donmez F., Kaplan Can H.
MecaNano 2nd General Meeting , Vienna, Austria, 1 - 03 May 2024, pp.19
- III. **Machine Learning-Driven Prediction of Elastic Modulus in Clay-Reinforced Polymer Nanocomposites**
Nur Yılmaz G., Kandemir A. Ç.
MecaNano 2nd General Meeting , Vienna, Austria, 1 - 03 May 2024, pp.78
- IV. **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
- V. **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
- VI. **Fabrication and Nanomechanical Analysis of Organic Coatings**
Özkan A. G., Ayadenk G., Boydaş S., Kandemir A. Ç.
16th Nanoscience and Nanotechnology Conference, Ankara, Turkey, 5 - 08 September 2022, pp.303
- VII. **Poly(N-vinyl pyrrolidone) and Tubular/Layered Clay Green Nanocomposites: Synthesis and Characterization**
donmez f., Kandemir A. Ç., Kaplan Can H.
- VIII. **Polivinil pirolidon (PVP)/Halloysit Nanokompozitlerin Sentezi ve Karakterizasyonu**
Dönmez F., Kaplan Can H., Kandemir A. Ç.
- IX. **Polymer Patterning by Dip Pen Nanolithography**
Kandemir A. Ç., Spolenak R.
- X. **Polymer and Polymer Nanocomposite Patterning by Dip Pen Nanolithography**
Kandemir A. Ç., Erdem D., Niederberger M., Spolenak R.
- XI. **USING MICRO AND NANO COMPOSITE APPROACHES TO IMPROVE FLAME RETARDANCY OF ABS**
Kaynak C., Ozkaraca A. C., Kandemir A. Ç.
- XII. **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
- XIII. **Use of Montmorillonite with Traditional Flame Retardants in Acrylonitrile Butadiene Styrene by Nanocomposite Approach**
Kandemir A. Ç., Kaynak C.
- XIV. **Flammability of Recycled Polyethylene Terephthalate with Boron Compounds and Two Traditional Flame Retardants,**
Kandemir A. Ç., Kaynak C.

Supported Projects

Kandemir (Working Group Member) A. Ç., TÜBİTAK - AB COST Project, European Materials Acceleration Center for Energy (EU-MACE), 2023 - 2027

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

Numanođlu Gen A., Kkpinar M. A., Bař O., Kandemir A. ., Nur Yılmaz G., Kaplan Can H., Ggř M., TUBITAK Project, Dzenli Ve Dzensiz řekli Mikroplastik Paracıkların kelme Hızlarının Deneysel, Sayısal Ve Derin ğrenmeye Dayanan Yntemlerle Arařtırılması, 2023 - 2025

Kandemir A. ., Sajid A., Rafiq T., Khan M. A., Project Supported by Higher Education Institutions, Multi-scaled Bio-Composite Fabrication via Spatially Graded Particles, 2023 - 2024

Dızecı ř., Kandemir A. ., TUBITAK Project, "Farklı Malzemelerin Yapıřtırılmasında Kapsayıcı Hasar Tespit Modelinin Geliřtirilmesi", 2022 - 2024

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

Kandemir A. ., Dızecı ř., TUBITAK Project, Biyolojik Sistemlerden Esinlenmiř Hiyerarřık lekli ve Paracık Yođunluđuna gre Deđiřen Polimer Kompozit retimi, 2019 - 2022

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

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

Scientific Research / Working Group Memberships

Ca22123 - European Materials Acceleration Center For Energy (Eu-Mace), Belgium, <https://eu-mace.eu/>, 2023 - Continues

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