

## Asst. Prof. SİNEM UZUN

### Personal Information

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### International Researcher IDs

ScholarID: w-uz54AAAAJ

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Yoksis Researcher ID: 236735

### Education Information

Post Doctorate, University of Glasgow, James Watt School of Engineering, Mechanical Engineering, England 2022 - 2023

Doctorate, Gazi University, Fen Bilimleri Enstitüsü, Enerji Sistemleri Mühendisliği, Turkey 2016 - 2021

Postgraduate, Gazi University, Fen Bilimleri Enstitüsü, Enerji Sistemleri Mühendisliği, Turkey 2013 - 2015

Undergraduate, Anadolu University, Faculty Of Economics, İktisat, Turkey 2008 - 2014

Undergraduate, Hacettepe University, Mühendislik Fakültesi, Nükleer Enerji Mühendisliği Bölümü, Turkey 2006 - 2012

### Foreign Languages

English, B2 Upper Intermediate

### Dissertations

Doctorate, NEUTRONIC AND THERMAL ANALYSIS OF DIFFERENT NANO COOLANTS OF THE THORIUM FUELED VVER 1000 REACTOR, Gazi University, Fen Bilimleri Enstitüsü, 2021

### Research Areas

Energy, Engineering and Technology

### Academic Titles / Tasks

Assistant Professor, Erzincan Binali Yildirim University, Mühendislik-Mimarlık Fakültesi, Makine Mühendisliği Bölümü, 2022 - Continues

Research Assistant, Erzincan Binali Yildirim University, Mühendislik-Mimarlık Fakültesi, Makine Mühendisliği Bölümü, 2015 - 2022

### Courses

Alternatif Enerji Kaynakları, Undergraduate, 2021 - 2022

Bilgisayar Destekli Teknik Resim, Undergraduate, 2020 - 2021  
Temel Bilgi Teknolojisi Kullanımı, Undergraduate, 2020 - 2021  
Makine Laboratuvarı, Undergraduate, 2021 - 2022

## Advising Theses

Uzun S., Acir A., Hibrit nano soğutucu akışkan kullanılarak VVER-1000 nükleer reaktörünün termal hidrolik analizi, Postgraduate, T.SİNECAN(Student), 2023

## Jury Memberships

Doctorate, Doctorate, Gazi Üniversitesi, January, 2024  
Post Graduate, Post Graduate, Gazi Üniversitesi, January, 2023  
Doctorate, Doctorate, Gazi Üniversitesi, January, 2023

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

- I. **Investigation of the thermal effects of MgO and ZnO nanoparticles in a pressurized water reactor coolant with CFD model**  
Uzun S.  
NUCLEAR TECHNOLOGY, vol.1, no.1, pp.1-13, 2025 (SCI-Expanded)
- II. **Optimizing Neural Network Models for Predicting Nuclear Reactor Channel Temperature: A Study on Hyperparameter Tuning and Performance Analysis**  
Uzun S., Yıldız E., Arslantaş H.  
NUCLEAR ENGINEERING AND DESIGN, vol.429, no.113636, pp.1-10, 2024 (SCI-Expanded)
- III. **Exploring Thermal Flow Dynamics in Pressurized Water Reactors Using Hybrid Graphene Nanoplatelet Coolants**  
Uzun S., Genç Y., Acir A.  
Energy Science and Engineering, vol.12, no.11, pp.4894-4903, 2024 (SCI-Expanded)
- IV. **Comprehensive Analysis of Nuclear Clad Materials: Neutronics, Radiation Shielding, and Modal Assessment**  
Uzun S.  
NUCLEAR ENGINEERING AND DESIGN, vol.428, no. 113510, pp.1, 2024 (SCI-Expanded)
- V. **Investigation of Hybrid Nanofluids Effects on Heat Transfer Characteristics in VVER-1000 Nuclear Reactor**  
Uzun S., Genç Y., Acir A.  
PROGRESS IN NUCLEAR ENERGY, vol.154, no.104489, pp.1, 2022 (SCI-Expanded)
- VI. **Exergy Analysis and Determination of Irreversibility of a Thermal Power Plant**  
Ata İ., Tanürün H. E., Uzun S., Bayrak S., Acir A.  
Heat Transfer Research, vol.53, no.2, pp.1-12, 2022 (SCI-Expanded)
- VII. **Experimental Investigation of Thermal Energy Storage Efficiency Using Fin Application with Phase Change Material (PCM) Under Solar Radiation**  
Acir A., Canlı M. E., Ata İ., Uzun S., Tanürün H. E.  
HEAT TRANSFER RESEARCH, vol.52, no.6, pp.21-39, 2021 (SCI-Expanded)
- VIII. **Thermal Analysis of the VVER-1000 Reactor with Thorium Fuel and Coolant Containing Al<sub>2</sub>O<sub>3</sub>, CuO and TiO<sub>2</sub> Nanoparticles**  
Acir A., Uzun S., Genç Y., Asal Ş.  
HEAT TRANSFER RESEARCH, vol.52, no.4, pp.79-93, 2021 (SCI-Expanded)

- IX. **EVALUATION OF THE Al/, Cu/, Si/, Ag/WATER NANOFLUID EFFECTS ON HEAT TRANSFER CHARACTERISTICS IN VVER-1200 LOADED WITH PLUTONIUM-THORIUM-BASED FUEL**  
Genç Y., Uzun S., Acır A.  
HEAT TRANSFER RESEARCH, vol.52, no.16, pp.1-12, 2021 (SCI-Expanded)

## Articles Published in Other Journals

- I. **The Effect of Nanofluid Coolant and Thorium-added Fuel on Burnup Dependent Isotopic Compositions in VVER-1000 Reactor**  
Genç Y., Uzun S., Acır A.  
Afyon Kocatepe Üniversitesi Fen ve Mühendislik Bilimleri Dergisi, vol.24, no.4, pp.1, 2024 (Peer-Reviewed Journal)
- II. **Determination of Solar Radiation Value by Month Using Artificial Neural Network Model; Ankara, Sivas, Erzurum example**  
Uzun S., Arslantaş H.  
Gazi Üniversitesi Fen Bilimleri Dergisi Part C: Tasarım ve Teknoloji, vol.12, no.1, pp.315-323, 2024 (Peer-Reviewed Journal)
- III. **Investigation of the use of calcium carbonate as nanoparticles in nuclear reactors**  
Uzun S., Genç Y., Acır A.  
Konya mühendislik bilimleri dergisi (Online), vol.11, no.1, pp.1-9, 2023 (Peer-Reviewed Journal)
- IV. **Investigation of shielding properties of nuclear reactor control rod material boron carbide**  
Uzun S.  
BOR DERGİSİ, vol.8, no.1, pp.25-30, 2023 (Peer-Reviewed Journal)
- V. **Examination of flat plate collector solar hot water system for Ankara province in Türkiye with TRNSYS software**  
Kurnuç Seyhan A., Uzun S., Coşkun S.  
JOURNAL OF POLYTECHNIC-POLİTEKNİK DERGİSİ, vol.25, no.4, pp.1809-1816, 2022 (Peer-Reviewed Journal)
- VI. **Evaluation of Irreversibility Analysis for Different Coal Types of a Thermal Power Plant**  
Uzun S.  
Gazi Üniversitesi Fen Bilimleri Dergisi Part C: Tasarım ve Teknoloji, vol.10, no.3, pp.577-587, 2022 (Peer-Reviewed Journal)
- VII. **UGD ve MOX Yakıtı Kullanılarak VVER-1000 Nükleer Reaktöründe Nötronik Ve Termal Performansın İncelenmesi**  
Uzun S., Genç Y., Acır A.  
Politeknik Dergisi, vol.2021, 2021 (ESCI)
- VIII. **VVER-1000 Reaktöründe Alüminyum Nanoparçacıklı Soğutucunun Termal Performansının İncelenmesi**  
Uzun S., Genç Y., Acır A.  
Politeknik Dergisi, vol.24, no.3, pp.1009-1015, 2021 (ESCI)
- IX. **VVER-1000 Nükleer Güç Reaktöründe Kritiklik ve Bağlı Güç Yoğunluk Dağılımının İncelenmesi**  
Genç Y., Uzun S., Acır A.  
Politeknik Dergisi, vol.23, no.4, pp.1379-1385, 2020 (ESCI)

## Books & Book Chapters

- I. **IMPORTANT ELEMENTS IN NUCLEAR TECHNOLOGY**  
Uzun S.  
in: THEORY AND RESEARCH IN ENGINEERING, Prof. Dr. Coşkun ÖZALP, Assoc. Prof. Dr. Nurettin Akçakale, Editor,  
Serüven Yayınevi, İzmir, pp.1-16, 2022

## Refereed Congress / Symposium Publications in Proceedings

- I. **Performance Comparison of Flat Plate and Vacuum Tube Solar Collectors Under Erzincan's Climatic Conditions**  
Uzun S., Kurnu Seyhan A.  
IX. Uluslararası Saėlık, Mühendislik ve Fen Bilimleri Kongresi, Ankara, Turkey, 27 - 29 September 2024, pp.1
- II. **Development of nuclear energy in the world and 4th generation reactors**  
Uzun S.  
RENEWABLEENG 2023, Barcelona, Spain, 25 - 27 September 2023, pp.1
- III. **Determination of Cladding Material for Nuclear Power Reactors**  
Uzun S., Genç Y.  
10. ULUSLARARASI MÜHENDİSLİK MİMARLIK VE TASARIM KONGRESİ, İstanbul, Turkey, 24 - 26 December 2022, pp.12
- IV. **INVESTIGATION OF THE SPENT FUEL PROBLEM WHEN TURKEY MEETS ITS ENERGY NEEDS FROM NUCLEAR PLANTS**  
Uzun S.  
INTERNATIONAL SCIENTIFIC RESEARCH CONGRESS DEDICATED TO THE 30TH ANNIVERSARY OF BAKU EURASIA UNIVERSITY, Baku, Azerbaijan, 27 - 28 April 2022, pp.1757-1761
- V. **ENERJİ ETKİN BİNALAR ÜZERİNE BİR İNCELEME**  
Uzun S.  
6. ULUSLARARASI MİMARLIK VE TASARIM KONGRESİ, İstanbul, Turkey, 25 - 26 December 2021, pp.265-270
- VI. **Comparing Nuclear and Solar Energy Options for Turkey**  
Uzun S.  
International Conference on Engineering Technologies (ICENTE 2021), Konya, Turkey, 18 - 20 November 2021, pp.330-334
- VII. **Thermal Analysis in VVER-1000 Reactor Using Nanofluid Coolant Mixed Alumina**  
UZUN S., ACIR A.  
International Conference on Innovative Engineering Applications(CIEA 2018), Sivas, Turkey, 20 - 22 September 2018, pp.195-201
- VIII. **Extended Burnup using Reactor Grade Plutonium in CanduReactor with Various Triso Packing Fractions**  
ACIR A., UZUN S.  
8th International Advanced Technologies Symposium, Elazığ, Turkey, 19 - 22 October 2017, pp.2230-2235
- IX. **Effect of the Condenser Pressure of Thermal Power PlantEfficiency**  
ACIR A., UZUN S.  
8th International Advanced Technologies Symposium, Elazığ, Turkey, 19 - 22 October 2017, pp.2236-2241
- X. **Investigation of Neutronic Performance in Fixed Bed Nuclear Reactor**  
ACIR A., UZUN S.  
II. International Conference on Advanced Engineering Sciences, Bayburt, Turkey, 21 - 23 September 2017, vol.19, pp.796-799
- XI. **Investigation of Neutronic Performance Using Triso Coated SpentFuels in a Thorium Based Fusion-Fission Reactor**  
ACIR A., UZUN S.  
II. International Conference on Advanced Engineering Technologies, Bayburt, Turkey, 21 - 23 September 2017, vol.19, pp.685-690

## Supported Projects

UZUN S., KURNUÇ SEYHAN A., Project Supported by Higher Education Institutions, Farklı iklim bölgeleri için farklı güneş kollektörü performanslarının TRNSYS yazılımı ile incelenmesi, 2024 - Continues

## **Metrics**

Publication: 30

Citation (WoS): 37

Citation (Scopus): 33

H-Index (WoS): 3

H-Index (Scopus): 4