



## Assist. Prof. Dr. ZEYNEP ÜLKER DEMİR

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Interview Hours: Pazartesi - 11:00 - 12:00  
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### EDUCATIONAL INFORMATION

Degree	University	Department	Year(s)
Doctoral Degree	Koç University	Chemical and Biological Engineering (Phd)	2011 - 2015
Master's Degree	Koç University	Chemical and Biological Engineering (Phd)	2009 - 2011
Bachelor's Degree	Koç University	Department of Chemistry-biology Engineering	2004 - 2009

### RESEARCH AREAS

Nanotechnology, Drug Delivery Systems, Supercritical Fluid Technology

### ACADEMIC DUTIES

Duty	University	Area	Year(s)
Assistant Professor	Altınbaş University	Pharmaceutical Biotechnology	2017 -
Post Doctoral student	Koç University	Chemical and Biological Engineering	2015 - 2016

### ADMINISTRATIVE DUTIES

Duty	University	Year(s)
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### ACADEMIC AND PROFESSIONAL MEMBERSHIPS

Organisation	Membership	Year(s)
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### NON-UNIVERSITY EXPERIENCE

Country	Organisation	Duty	Year(s)
Germany	Technical University of Hamburg	Visiting researcher	2014 - 2014

### BOOKS

**Supercritical Fluid Technology for Energy and Environmental Applications - Chapter 8 Applications of Aerogels and Their Composites in Energy-Related Technologies**

Zeynep Ülker , Deniz Sanli , Can Erkey

Elsevier, 978-0-444-62696-7, 2014

Scientific Book [Chapter\(s\)](#)

### ARTICLES

**Biodegradable polysaccharide aerogels based on tragacanth and alginate as novel drug delivery systems**

Al Barudi Amenah, SİNANİ GENADA, ÜLKER DEMİR ZEYNEP

Journal of Sol-Gel Science and Technology, 2024

International DOI: 10.1007/s10971-024-06312-0

**Alginate-cotton blended aerogel fibers: synthesis, characterization, and oil/water separation**

Azam Farooq, Ahmad Faheem, Ahmad Sheraz, Zafar Muhammad Sohail, ÜLKER DEMİR ZEYNEP

International Journal of Environmental Science and Technology, 2023

International DOI: 10.1007/s13762-023-05329-2

## ARTICLES

### **The effect of synthesis conditions and process parameters on aerogel properties**

Payanda Konuk Özge, Alsuhile Ala A. A. M., YOUSEFZADEH HAMED, ÜLKER DEMİR ZEYNEP, BOZBAĞ SELMİ ERİM, García-González C. A., Smirnova Irina, ERKEY CAN

Frontiers Media SA, 2023

International DOI: 10.3389/fchem.2023.1294520

### **Current State of Lipid Nanoparticles (SLN and NLC) for Skin Applications**

Eroğlu Cemre, SİNANİ GENADA, ÜLKER DEMİR ZEYNEP

Current Pharmaceutical Design, 2023

International DOI: 10.2174/1381612829666230803111120

### **Synthesis and characterization of natural fibers reinforced alginate hydrogel fibers loaded with diclofenac sodium for wound dressings**

Azam Farooq, Ahmad Faheem, Ahmad Sheraz, Zafar Muhammad Sohail, ÜLKER DEMİR ZEYNEP

Elsevier BV, 2023

International DOI: 10.1016/j.ijbiomac.2023.124623

### **Enteric coating of drug loaded aerogel particles in a wurster fluidized bed and its effect on release behaviour**

Akgün Işık, ÜLKER DEMİR ZEYNEP, Darvishi Saeid, Karaz selcan, ŞENSES ERKAN, ERKEY CAN

Elsevier BV, 2023

International DOI: 10.1016/j.jddst.2023.104279

### **The Role and Applications of Aerogels in Textiles**

Azam Farooq, Ahmad Faheem, ÜLKER DEMİR ZEYNEP, Zafar Muhammad Sohail, Ahmad Sheraz, Rasheed Abher, Nawab Yasir, ERKEY CAN

Hindawi Limited, 2022

International DOI: 10.1155/2022/2407769

### **Preparation and Characterization of Alginate Hydrogel Fibers Reinforced by Cotton for Biomedical Applications**

Azam Farooq, Ahmad Faheem, Ahmad Sheraz, Zafar Muhammad Sohail, ÜLKER DEMİR ZEYNEP

POLYMERS, 2022

International DOI: 10.3390/polym14214707

### **Synthesis and Characterization of Nonwoven Cotton-Reinforced Cellulose Hydrogel for Wound Dressings**

Ahmad Faheem, Mushtaq Bushra, Butt Faaz Ahmed, Zafar Muhammad Sohail, Ahmad Sheraz, Afzal Ali, Nawab Yasir, Rasheed Abher, ÜLKER DEMİR ZEYNEP

MDPI AG, 2021

International DOI: 10.3390/polym13234098

### **Development and Validation of Retention Models in Supercritical Fluid Chromatography for Impregnation Process Design**

Sun Miaotian, ÜLKER DEMİR ZEYNEP, Chen Zhixing, Deeptanshu Sivaraman, Johannsen Monica, ERKEY CAN, Gurikov Pavel

Applied Sciences, 2021

International DOI: 10.3390/app11157106

### **A novel composite of alginate aerogel with PET nonwoven with enhanced thermal resistance**

Ahmad Faheem, ÜLKER DEMİR ZEYNEP, ERKEY CAN

JOURNAL OF NON-CRYSTALLINE SOLIDS, 2018

International DOI: 10.1016/j.jnoncrysol.2018.03.023

### **Kinetics of supercritical drying of gels**

Sahin Ibrahim, ÖZBAKIR YAPRAK, Inonu Zeynep, ÜLKER DEMİR ZEYNEP, ERKEY CAN

Kinetics of supercritical drying of gels, 2017

International

### **An advantageous technique to load drugs into aerogels: Gas antisolvent crystallization inside the pores**

ÜLKER DEMİR ZEYNEP, ERKEY CAN

JOURNAL OF SUPERCRITICAL FLUIDS, 2017

International DOI: 10.1016/j.supflu.2016.05.033

## ARTICLES

### Experimental and theoretical investigation of drug loading to silica alcogels

ÜLKER DEMİR ZEYNEP, ERKEY CAN

JOURNAL OF SUPERCRITICAL FLUIDS, 2015

International DOI: 10.1016/j.supflu.2015.06.025

### Monolithic composites of silica aerogel with poly(methyl vinyl ether) and the effect of polymer on supercritical drying

Ozbakir Yaprak, ÜLKER DEMİR ZEYNEP, ERKEY CAN

JOURNAL OF SUPERCRITICAL FLUIDS, 2015

International DOI: 10.1016/j.supflu.2015.04.001

### A novel hybrid material: an inorganic silica aerogel core encapsulated with a tunable organic alginate aerogel layer

ÜLKER DEMİR ZEYNEP, ERKEY CAN

RSC ADVANCES, 2014

International DOI: 10.1039/c4ra09089f

### An emerging platform for drug delivery: Aerogel based systems

ÜLKER ZEYNEP, ERKEY CAN

JOURNAL OF CONTROLLED RELEASE, 2014

International DOI: 10.1016/j.jconrel.2013.12.033

### Three-dimensional optofluidic waveguides in hydrophobic silica aerogels via supercritical fluid processing

Eriş gamze, Şanlı Deniz, ÜLKER ZEYNEP, Bozbag Selmi Erim, Jonas Alexander, KIRAZ ALPER, ERKEY CAN

JOURNAL OF SUPERCRITICAL FLUIDS, 2013

International DOI: 10.1016/j.supflu.2012.11.001

### Novel nanostructured composites of silica aerogels with a metal organic framework

ÜLKER ZEYNEP, İlknur Erucar Fındıkçı, KESKİN AVCI SEDA, ERKEY CAN

MICROPOROUS AND MESOPOROUS MATERIALS, 2013

International DOI: 10.1016/j.micromeso.2012.11.040

## PROCEEDINGS

### Maleic Acid Crosslinked Sodium Carboxymethyl Cellulose Aerogels for Sustainable and Bio-Based Thermal Insulation Applications

Payanda Konuk Özge, ÜLKER DEMİR ZEYNEP, ERKEY CAN

European Meeting on Supercritical Fluids, 2023

International

### Cellulose Ether Aerogels for Thermal Insulation

Payanda Konuk Özge, ÜLKER DEMİR ZEYNEP, ERKEY CAN

2nd International Conference on Aerogels for Biomedical and Environmental Applications, 2022

International

### Tragacanth gum and alginate based composite aerogels as novel controlled drug release systems

ÜLKER DEMİR ZEYNEP, SİNANİ GENADA

International Conference on Aerogels for Biomedical and Environmental Applications, 2020

International

### Novel tragacanth aerogels for drug delivery

ÜLKER DEMİR ZEYNEP

NanoTR14, 2018

International

### Novel Micro- and Mesoporous Composites of Silica Aerogels with a Metal Organic Framework

ÜLKER DEMİR ZEYNEP, ERUÇAR FINDIKÇI İLKUNUR, KESKİN AVCI SEDA, ERKEY CAN

IUPAC 2013, 2016

International

## PROCEEDINGS

### Development of Drug Delivery Devices based on Nanoporous Alginate Aerogels

ÜLKER DEMİR ZEYNEP, ERKEY CAN

PPM 2015, 2015

International

### A new technique to incorporate substances in porous supports: Gas antisolvent crystallization inside of the pores

ÜLKER DEMİR ZEYNEP, ERKEY CAN

ISSF 2015, 2015

International

### Nanostructured Aerogels as Drug Delivery Systems

ÜLKER DEMİR ZEYNEP, ERKEY CAN

Nanobiotechnology Days 2015, 2015

International

### A Novel Layered Aerogel System for Controlled Drug Delivery, International Seminar on Aerogels

ÜLKER DEMİR ZEYNEP, Özbakir Yaprak, ERKEY CAN

International Seminar on Aerogels, 2014

International

### Study of Adsorption on Aerogels by Supercritical Fluid Chromatography

Gurikov Pavel, ÜLKER DEMİR ZEYNEP, ERKEY CAN, Smirnova Irina

International Seminar on Aerogels, 2014

International

### Sol Jel Parametrelerinin Silika Aerojellerin Özellikleri Üzerindeki Etkileri

Karayılan Metin, ŞANLI YILDIZ DENİZ, ÜLKER DEMİR ZEYNEP, ERKEY CAN

10th National Conference on Chemical Engineering in Turkey, 2012

National

### Nanoyapılı Silika Aerojel MOF Kompozitleri

ÜLKER DEMİR ZEYNEP, ERUÇAR FINDIKÇI İLKNUR, KESKİN AVCI SEDA, ERKEY CAN

10th National Conference on Chemical Engineering in Turkey, 2012

National

### Nanostructured Composites of Silica Aerogel with Poly vinyl pyrrolidone

ÜLKER DEMİR ZEYNEP, ŞANLI YILDIZ DENİZ, ERKEY CAN

10th International Symposium on Supercritical Fluids, 2012

International

### Nanostructured Composites of Silica Aerogels with polymers as core materials for Vacuum Insulation Panels for Buildings

ÜLKER DEMİR ZEYNEP, ŞANLI YILDIZ DENİZ, Andersonn Roland, Gullberg Leif, ERKEY CAN

NICOM4, 2012

International

### PEG Hydrogel Coated Silica Aerogels A Novel Drug Delivery System

ÜLKER DEMİR ZEYNEP, ŞANLI YILDIZ DENİZ, Giray Seda, KIZILEL SEDA, ERKEY CAN

13th European Meeting on Supercritical Fluids, 2011

International

## PROJECTS

### Advanced Engineering and Research of aeroGels for Environment and Life Sciences (AERoGELS) (Researcher)

COST, 30.04.2019 - 29.04.2023

International Completed

### Kitre Zamkı Bazlı Aerojel İlaç Salım Sistemi Hazırlanması ve Karakterizasyonu (Executive)

Scientific research project supported by Higher Education Institutions, 19.04.2019 - 19.05.2020

National Completed

## THESIS SUPERVISION

**Composite Hydrogels for Drug Delivery**

Hidayatullah

2022 Master's Degree

## COURSES

Course Type	Course Code	Course Name
Bachelor's Degree	PHAR124	PHARMACEUTICAL TERMINOLOGY
Bachelor's Degree	PHAR479	DRUG DEVELOPMENT: FROM MOLECULE TO MARKETING
Bachelor's Degree	PHAR585	GRADUATION PROJECT I
Bachelor's Degree	PHAR502	GRADUATION PROJECT II
Bachelor's Degree	PHAR494	BIOMATERIALS
Doctorate	ECZ611	BİYOFARMASÖTİKLER
Bachelor's Degree	PHAR442	PHARMACEUTICAL BIOTECHNOLOGY
Bachelor's Degree	PHAR261	INTRODUCTION TO PHARMACEUTICAL TECHNOLOGY
Bachelor's Degree	PHAR361	PHARMACEUTICAL TECHNOLOGY I
Doctorate	ECZ627	NANO İLAÇLAR VE HEDEFLENMİŞ İLAÇ TAŞIYICI SİSTEMLER

## PERSONAL INFORMATION

### CONTACT INFORMATION

Interview Hours: Pazartesi - 11:00 - 12:00

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