

Assoc. Prof. SELİS ÖNEL KAYRAN

Personal Information

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International Researcher IDs

ScholarID: 8dt3RK4AAAAJ

ORCID: 0000-0001-5184-0323

Publons / Web Of Science ResearcherID: G-6091-2013

ScopusID: 6602469110

Yoksis Researcher ID: 168555

Education Information

Post Doctorate, Harvard University, Harvard Tıp Fakültesi, Center For Engineering İn Medicine / Biyomedikal Muhendisligi, United States Of America 2010 - 2010

Post Doctorate, Harvard University, Harvard Tıp Fakültesi, Center For Engineering İn Medicine / Biyomedikal Muhendisligi, United States Of America 2009 - 2009

Post Doctorate, Harvard University, Harvard Tıp Fakültesi, Center For Engineering İn Medicine / Biyomedikal Muhendisligi, United States Of America 2008 - 2008

Doctorate, Northeastern University, Graduate School Of Engineering, Makina Muhendisligi, United States Of America 2000 - 2006

Postgraduate, Middle East Technical University, Graduate School Of Natural And Applied Sciences, Kimya Muhendisligi, Turkey 1997 - 2000

Undergraduate, Middle East Technical University, Faculty Of Engineering, Kimya Muhendisligi, Turkey 1992 - 1997

Foreign Languages

English, C1 Advanced

Dissertations

Doctorate, Comparison and extension of free dendritic growth models through application to silver-15 mass percent copper alloy, Northeastern University, Department Of Mechanical And Industrial Engineering, 2006

Postgraduate, Energy optimization of the yankee-hood dryer, Orta Doğu Teknik Üniversitesi, Risk Analizi A.B.D., Kimya Mühendisliği (YI) (Tezli), 2000

Research Areas

Biomedical Engineering, Bioengineering and MEMS, Bioinstrumentation and Microelectromechanical Systems (MEMS), Chemical Engineering and Technology, Biotechnology, Biomedical Engineering, Basic Operations and Thermodynamics, Thermodynamics, Heat Transfer, Transport Events, Mechanical Engineering, Construction and Manufacturing, Non-

traditional manufacturing methods, Thermodynamics, Heat and Mass Transfer, Computational fluid dynamics, Thermal Systems, Metallurgical and Materials Engineering, Material science and engineering, Chemical and Electrochemical Properties, Mathematics, Numerical Analysis, Natural Sciences, Engineering and Technology

Academic Titles / Tasks

Associate Professor, Hacettepe University, Mühendislik Fakültesi, Kimya Mühendisliği Bölümü, 2017 - Continues
Associate Professor, Middle East Technical University Northern Cyprus Campus, Engineering, Mechanical Engineering, 2018 - 2019
Associate Professor, National Defense University, Alparslan Defense Sciences Institute, Department Of Weapon Systems, 2017 - 2019
Researcher, Harvard University, Harvard Medical School / Massachusetts General Hospital, Biomedical Engineering, 2016 - 2017
Assistant Professor, Hacettepe University, Mühendislik Fakültesi, Kimya Mühendisliği Bölümü, 2011 - 2017
Assistant Professor, Land War Academy Command, Institute Of Defense Sciences, 2012 - 2016
Researcher, Harvard University, Massachusetts General Hospital, Center for Engineering in Medicine, 2008 - 2015
Lecturer PhD, Land War Academy Command, Institute Of Defense Sciences, Department Of Operation Research, 2008 - 2011
Research Assistant, Northeastern University, College of Engineering, Department of Mechanical and Industrial Engineering, 2000 - 2006
Research Assistant, Middle East Technical University, Graduate School Of Natural And Applied Sciences, International Center for Heat and Mass Transfer (ICHMT), 1998 - 2000

Academic and Administrative Experience

Hacettepe Üniversitesi, Mühendislik Fakültesi, Kimya Mühendisliği Bölümü, 2008 - Continues

Courses

Kimya Mühendisliği Termodinamiği I, Undergraduate, 2021 - 2022
Thermodynamics of Chemical Engineering II, Undergraduate, 2022 - 2023
Advanced Chemical Engineering Thermodynamics, Postgraduate, 2020 - 2021
Solid State Chemistry, Doctorate, 2018 - 2019
Advanced Engineering Mathematics, Postgraduate, 2019 - 2020, 2018 - 2019, 2017 - 2018
Introduction to Microfluidic Systems, Doctorate, 2019 - 2020
KMU600 ÖZEL KONULAR, Postgraduate, 2017 - 2018, 2016 - 2017
KMU700 ÖZEL KONULAR, Doctorate, 2017 - 2018, 2016 - 2017
NNT600 ÖZEL KONULAR, Postgraduate, 2017 - 2018, 2016 - 2017
KMU479 MALZEME BİLİMİ VE TEKNOLOJİSİ II, Undergraduate, 2017 - 2018
KMÜ403 KIMYA MÜHENDİSLİĞİ LABORATUVARI I, Undergraduate, 2017 - 2018
BYM600 ÖZEL KONULAR, Postgraduate, 2017 - 2018, 2016 - 2017
NNT700 ÖZEL KONULAR, Doctorate, 2016 - 2017

Advising Theses

Gerçekçioğlu E., Önel Kayran S., 17-4 PH Paslanmaz Çeliğin Elektro Erozyon ve Elektrokimyasal İşleme Yöntemleriyle İşlenebilirliğinin Araştırılması ve İşleme Yüzeylerinde Korozyon Davranışının İncelenmesi, Doctorate, M.ALBAŞKARA(Student), 2022

Önel Kayran S., OPTIMIZATION OF FLOW CONDITIONS AND INVESTIGATION OF CRYSTALLIZATION KINETICS FROM A SUPERSATURATED SOLUTION IN A TWO-PHASE MICROFLUIDIC SYSTEM, Postgraduate, T.AHMED(Student), 2022

Önel Kayran S., DUYARSIZ PATLAYICILARIN DETONASYONU İÇİN LAZER TETİKLİ DETONATÖR DÜZENEGİ GELİŞTİRİLMESİ, Doctorate, G.ÖZKASAPOĞLU(Student), 2022

Önel Kayran S., Külah H., Investigation of the permeability of the cell membrane for different cryoprotectant agents in a continuous thermo-fluidic micro-channel system, Postgraduate, A.HATİBOĞLU(Student), 2021

Önel Kayran S., Mikrokanallı cihazlarda damlacık oluşturmak için iki-fazlı akış çalışma parametrelerinin optimizasyonu, Postgraduate, B.ÖZDEN(Student), 2021

Önel S., Al-6061 alaşımı için uygun elektrokimyasal işleme parametrelerinin ve elektrolitin araştırılması, Postgraduate, G.ŞEHNAZ(Student), 2018

Önel S., Yeni bir elektrokimyasal işleme tezgahında çalışma parametrelerinin titanyum alaşımları için eniyilemesi, Postgraduate, N.HANLIOĞLU(Student), 2018

Önel S., Beyin damar akışında gaz halde emboli davranışının matematiksel modellemesi, Postgraduate, P.KIZILTAŞ(Student), 2018

Önel S., Ekmeklik buğday kalitesini değerlendirmede kullanılan kimyasal ve fiziksel özelliklerin incelenmesi, Postgraduate, Y.OKUR(Student), 2017

Önel S., Examination and mathematical modelling of shrinkage rate of uniform droplets in a microfluidic system designed for biopreservation, Postgraduate, U.OKUMUŞ(Student), 2015

ÖNEL S., Bir elektrokimyasal işleme uygulamasında atık elektrolitin ağır metal iyonlarından arındırılması ve geri kazanımı, Postgraduate, G.ERGİN(Student), 2012

Jury Memberships

Doctoral Examination, Doctoral Examination, Orta Doğu Teknik Üniversitesi, December, 2019

PhD Thesis Monitoring Committee Member, PhD Thesis Monitoring Committee Member, Orta Doğu Teknik Üniversitesi, December, 2019

Doctorate, Doctorate, Orta Doğu Teknik Üniversitesi, November, 2019

Post Graduate, Post Graduate, Orta Doğu Teknik Üniversitesi, September, 2019

Doctoral Examination, Doctoral Examination, Hacettepe Üniversitesi, June, 2019

Doctoral Examination, Doctoral Examination, Hacettepe Üniversitesi, February, 2019

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Multistep Treatment of a Complex Electrolyte for Removal of Heavy Metal Ions and Recycling in Electrochemical Machining**
ÖNEL S., Ergin G.
JOURNAL OF MANUFACTURING SCIENCE AND ENGINEERING-TRANSACTIONS OF THE ASME, vol.142, no.7, 2020 (SCI-Expanded)
- II. **Permeability and fluid flow-induced wall shear stress in bone scaffolds with TPMS and lattice architectures: A CFD analysis**
ALI D., ÖZALP M., Blanquer S. B. G., ÖNEL S.
EUROPEAN JOURNAL OF MECHANICS B-FLUIDS, vol.79, pp.376-385, 2020 (SCI-Expanded)
- III. **Application of a simple subregular solution model to the computation of phase boundaries and free dendritic growth in the Ag-Cu system**
ÖNEL S., Ando T.
ACTA MATERIALIA, vol.113, pp.109-115, 2016 (SCI-Expanded)
- IV. **Simulations of nanoscale Ni/Al multilayer foils with intermediate Ni₂Al₃ growth**
GUNDUZ I. E., ÖNEL S., DOUMANIDIS C. C., Rebholz C., SON S. F.
JOURNAL OF APPLIED PHYSICS, vol.117, no.21, 2015 (SCI-Expanded)

- V. **INVESTIGATION AND APPLICATION OF AUTOMATIC CONTROLLED ELECTROCHEMICAL MACHINING (ECM)**
Onel S.
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.29, no.1, pp.1-8, 2014 (SCI-Expanded)
- VI. **DETERMINATION AND REMOVAL OF COPPER IONS (CU²⁺) IN THE WASTE ELECTROLYTE IN AN ELECTROCHEMICAL MACHINING APPLICATION**
ERGIN G., ÖNEL S.
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.29, no.3, pp.487-494, 2014 (SCI-Expanded)
- VII. **Comparison and extension of free dendritic growth models through application to a Ag-15 mass pct Cu alloy**
Onel S., Ando T.
METALLURGICAL AND MATERIALS TRANSACTIONS A-PHYSICAL METALLURGY AND MATERIALS SCIENCE, no.10, pp.2449-2458, 2008 (SCI-Expanded)
- VIII. **Energy optimization of the Yankee-Hood dryer**
Onel S., Guruz G.
STROJNISKI VESTNIK-JOURNAL OF MECHANICAL ENGINEERING, vol.47, no.8, pp.512-518, 2001 (SCI-Expanded)

Refereed Congress / Symposium Publications in Proceedings

- I. **Effect of Blood Viscosity on Pressure and Shear Stress on the Walls of an Artery with Stenosis**
Ali D., ÖNEL S.
Medical Technologies National Congress (TIPTEKNO), Magusa, CYPRUS, 8 - 10 November 2018
- II. **Entropy based classification of road-profiles**
Caglar Baslamisli S. Ç., ÖNEL S.
ASME 2010 10th Biennial Conference on Engineering Systems Design and Analysis, ESDA2010, İstanbul, Turkey, 12 - 14 July 2010, vol.4, pp.401-408

Supported Projects

- ÖNEL KAYRAN S., Project Supported by Higher Education Institutions, Biyomalzemeleri Önderiştirme için geliştirilen BiyoMEMS Cihazda Biyomalzemelerle Performans Testleri, 2015 - 2016
- ÖNEL KAYRAN S., Project Supported by Higher Education Institutions, Biyosaklama ve Önderiştirme Yöntemlerinde İlerlemeler, 2015 - 2015
- ÖNEL KAYRAN S., Project Supported by Higher Education Institutions, Biomedikal amaçlı mikro-kanallı akışkan bir sistemde kütle aktarımının matematiksel modellenmesi, 2014 - 2015
- ÖNEL S., TUBITAK Project, Otomatik Kontrollü Elektrokimyasal İşleme Tezgahında Geliştirme Çalışmaları Elektrolit Devri Tasarımı ve Modellemesi, 2011 - 2012
- ÖNEL S., Industrial Thesis Project, CNC Kontrollü Elektrokimyasal İşleme Tezgahı, 2010 - 2011
- Project Supported by Other Private Institutions, Yankee Hood Kurutucusunda Enerji Optimizasyonu, 1998 - 2000

Activities in Scientific Journals

Technology, Assistant Editor/Section Editor, 2016 - Continues

Scientific Refereeing

TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, Hacettepe University, Turkey, November 2019

Metrics

Publication: 10

Citation (WoS): 32

Citation (Scopus): 29

H-Index (WoS): 3

H-Index (Scopus): 3