

Assoc. Prof. SEVGİ TÜRKER KAYA

Personal Information

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International Researcher IDs

ORCID: 0000-0002-5393-0207

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Education Information

Doctorate, Middle East Technical University, Graduate School Of Natural And Applied Sciences, Biochemistry, Turkey
2002 - 2009

Postgraduate, Middle East Technical University, Graduate School Of Natural And Applied Sciences, Biyoloji (YI) (Tezli),
Turkey 1999 - 2002

Undergraduate, Hacettepe University, Fen Fakültesi, Biyoloji Bölümü, Turkey 1994 - 1998

Research Areas

Natural Sciences

Academic Titles / Tasks

Associate Professor, Kocaeli University, Fen Edebiyat Fakültesi, Biyoloji, 2022 - Continues

Assistant Professor, Kocaeli University, Fen Edebiyat Fakültesi, Biyoloji, 2018 - Continues

Assistant Professor, Kocaeli University, Fen Edebiyat Fakültesi, Biyoloji, 2011 - 2018

Research Assistant, Kocaeli University, Fen Edebiyat Fakültesi, Biyoloji, 2009 - 2011

Research Assistant, Middle East Technical University, Faculty Of Arts And Sciences, Department Of Biology, 2002 - 2009

Academic and Administrative Experience

Head of Department, Kocaeli University, Fen Edebiyat Fakültesi, Biyoloji, 2011 - 2019

Kocaeli Üniversitesi, Fen-Edebiyat Fakültesi, Biyoloji Bölümü, 2013 - 2016

Courses

Temel Biyofizik I, Undergraduate, 2017 - 2018

Biyomoleküler Etkileşmeler, Postgraduate, 2017 - 2018

Yabancı Dilde Okuma ve Konuşma, Undergraduate, 2017 - 2018, 2016 - 2017

Genel Biyoloji I, Undergraduate, 2017 - 2018

Biyolojide Spektroskopı Yöntemleri, Postgraduate, 2017 - 2018

Yapay Membranlar Liposomlar ve Biyolojide Uygulamaları, Postgraduate, 2017 - 2018

Genetik Lab., Undergraduate, 2017 - 2018

Genetik I, Undergraduate, 2017 - 2018, 2016 - 2017

GENEL BİYOLOJİ, Undergraduate, 2016 - 2017

YAPAY MEMBRANLAR, LİPOSOMLAR VE BİYOLOJİDE UYGULAMALARI, Postgraduate, 2016 - 2017

TEMEL BİYOFİZİK, Undergraduate, 2016 - 2017

Advising Theses

Türker Kaya S., Neonatal dönemde uygulanan kafeinin tonik klonik nöbet geçiren wistar sincanlarda biyofiziksel etkilerinin araştırılması, Postgraduate, G.KANDİL(Student), 2020

Published journal articles indexed by SCI, SSCI, and AHCI

- I. Comparison of the effects of cytokinins and chitosan on in vitro seed germination and organ development in radish
Sarhang M., ACEMİ A., TÜRKER KAYA S.
Plant Cell, Tissue and Organ Culture, vol.154, no.1, pp.29-41, 2023 (SCI-Expanded)
- II. Calorimetric and spectroscopic investigation of the interaction of chemotherapeutic agent carboplatin with sphingomyelin lipids
TÜRKER KAYA S., Kina A.
JOURNAL OF THERMAL ANALYSIS AND CALORIMETRY, vol.146, no.6, pp.2515-2522, 2021 (SCI-Expanded)
- III. Biomolecular Structure and Composition Changes in the Root System of Long-Lipped Serapias (Serapias vomeracea) After In Vitro Chitosan and Plant Growth Regulator Treatments
ACEMİ A., Türker-Kaya S.
Journal of Plant Growth Regulation, vol.40, no.3, pp.1315-1326, 2021 (SCI-Expanded)
- IV. Analysis of rat blood plasma upon acute epileptic seizures by infrared spectroscopy with chemometrics
Turker-Kaya S., İlbay G.
VIBRATIONAL SPECTROSCOPY, vol.109, 2020 (SCI-Expanded)
- V. FTIR-based comparative analysis of glucomannan contents in some tuberous orchids, and effects of pre-processing on glucomannan measurement
Acemi A., Çobanoğlu O., Turker-Kaya S.
JOURNAL OF THE SCIENCE OF FOOD AND AGRICULTURE, vol.99, pp.3681-3686, 2019 (SCI-Expanded)
- VI. THE EFFECTS OF THE HERBICIDE ROUNDUP ON ZEA MAYS L.
AKSOY Ö., TÜRKER KAYA S., Tutunoglu B.
FRESENIUS ENVIRONMENTAL BULLETIN, vol.28, no.3, pp.1693-1700, 2019 (SCI-Expanded)
- VII. Inhibition of PDE4 by low doses of rolipram induces changes in lipid and protein components of mice heart
Turker-Kaya S., Celikyurt I. K., Celikyurt U., Kina A.
GENERAL PHYSIOLOGY AND BIOPHYSICS, vol.37, no.1, pp.1-12, 2018 (SCI-Expanded)
- VIII. A Review of Mid-Infrared and Near-Infrared Imaging: Principles, Concepts and Applications in Plant Tissue Analysis
TÜRKER KAYA S., Huck C. W.
MOLECULES, vol.22, no.1, 2017 (SCI-Expanded)
- IX. Tianeptine, olanzapine and fluoxetine show similar restoring effects on stress induced molecular changes in mice brain: An FT-IR study
Turker-Kaya S., Mutlu O., Celikyurt I. K., Akar F., Ulak G.
Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, vol.161, pp.178-185, 2016 (SCI-Expanded)

- X. **Investigation of Compositional, Structural, and Dynamical Changes of Pentylenetetrazol-Induced Seizures on a Rat Brain by FT-IR Spectroscopy**
 Turker S., İLBAY G., Severcan M., Severcan F.
 ANALYTICAL CHEMISTRY, vol.86, no.3, pp.1395-1403, 2014 (SCI-Expanded)
- XI. **Epileptic seizures induce structural and functional alterations on brain tissue membranes**
 Turker S., Severcan M., İLBAY G., Severcan F.
 Biochimica et Biophysica Acta - Biomembranes, vol.1838, no.12, pp.3088-3096, 2014 (SCI-Expanded)
- XII. **Convulsant agent pentylenetetrazol does not alter the structural and dynamical properties of dipalmitoylphosphatidylcholine model membranes**
 Turker S., Wassall S., Stillwell W., Severcan F.
 JOURNAL OF PHARMACEUTICAL AND BIOMEDICAL ANALYSIS, vol.54, no.2, pp.379-386, 2011 (SCI-Expanded)
- XIII. **The characterization and differentiation of higher plants by Fourier transform infrared spectroscopy**
 Gorgulu S., Dogan M., Severcan F.
 APPLIED SPECTROSCOPY, vol.61, no.3, pp.300-308, 2007 (SCI-Expanded)
- XIV. **Rapid monitoring of diabetes-induced lipid peroxidation by Fourier transform infrared spectroscopy: Evidence from rat liver microsomal membranes**
 Severcan F., Gorgulu G., Gorgulu S., GÜRAY N. T.
 ANALYTICAL BIOCHEMISTRY, vol.339, no.1, pp.36-40, 2005 (SCI-Expanded)

Articles Published in Other Journals

- I. **The investigation of the interaction of armodafinil with membrane lipids by using DPPC model membrane system**
 KIRKOĞLU H., TÜRKER KAYA S.
 TÜRK HİJYEN VE DENEYSEL BİYOLOJİ DERGİSİ, vol.76, no.1, pp.41-52, 2019 (Scopus)
- II. **Infrared spectroscopic imaging studies of medicinal plants**
 TÜRKER KAYA S., HUCK PEZZEI V., HUCK C.
 NIR NEWS, vol.29, no.4, pp.9-14, 2018 (Peer-Reviewed Journal)
- III. **Binding ability of lacosamide to phosphatidylcholine lipids and cholesterol effects**
 YAĞIŞ B., TÜRKER KAYA S.
 MEDENİYET MEDICAL JOURNAL, vol.33, no.3, pp.218-226, 2018 (Scopus)
- IV. **Divergent interaction profiles of gabapentin and levetiracetam with dipalmitoylphosphatidylcholine lipids**
 TÜRKER KAYA S., Kına A., Alın S.
 International Journal of Epilepsy, vol.4, no.2, pp.150-158, 2017 (Scopus)
- V. **Application of infrared spectroscopy in the study of neurological diseases**
 TÜRKER KAYA S.
 BIOMEDICAL SPECTROSCOPY AND IMAGING, vol.1, pp.303-323, 2012 (ESCI)

Books & Book Chapters

- I. **Acute Epileptic Seizures Induce Significant Alterations in Proteins Of Hippocampus Region: Evidence From Infrared Spectroscopic Analysis**
 TÜRKER KAYA S., İLBAY G.
 in: New Trends in Science and Mathematics, Prof.Dr. Hüsnüye SAĞLIKER, Editor, Duvar Publishing, İzmir, pp.281-298, 2022
- II. **Use of Differential Scanning Calorimetry in Model Membrane Research**
 TÜRKER KAYA S.

- in: International Research in Science and Mathematics, Prof.Dr. Filiz Özbaş Gerçekler, Prof.Dr. Hasan Akgül, Doç.Dr. Hayri Baba, Editor, Serüven Yayınevi, İzmir, pp.179-200, 2022
- III. **Neonatal Caffeine Administration Causes Biomolecular Alterations in Cerebellum Brain Region in Epileptic Rats**
Şentürk D., TÜRKER KAYA S., İLBAY G.
in: INSAC Academic Studies on Natural and Engineering Sciences, Ruşen Aydin, Yıldızel Sadık, Editor, Gece Kitaplığı, Ankara, pp.171-186, 2021
- IV. **Comparative Analysis of Different Regions of Rat Brain Tissue by FT-IR Spectroscopy**
TÜRKER KAYA S., Dağcı K., Yıldırım D., Şentürk D., İLBAY G.
in: ADVANCES IN HEALTH AND NATURAL SCIENCES, , Editor, NOVA Science Publishers Inc. , pp.183-190, 2019
- V. **Methodological approaches from experimental to computational analysis in vibrational spectroscopy and microscopy**
Severcan F., Akkas S. B., Turker S., Yücel R.
in: Vibrational Spectroscopy in Diagnosis and Screening, Severcan Feride, Haris Parvez, Editor, IOS Press , pp.12-52, 2012

Refereed Congress / Symposium Publications in Proceedings

- I. **Food Additives Benzoic Acid and Butylated Hydroxytoluene Differently Thermotropic Properties of Phosphatidylcholine Membrane Lipids**
Taze S., Rishi T., Türker Kaya S.
3. International Anatolian Congress on Multidisciplinary Scientific Research, Kayseri, Turkey, 27 - 28 December 2022, pp.178-195
- II. **Thermal characterization of polyphenol oxidase from persimmon**
KALE E., TÜRKER KAYA S., YÜZÜĞÜLLÜ KARAKUŞ Y.
International Marmara Sciences Congress (Imascon Spring 2022), Kocaeli, Turkey, 13 May 2022, pp.493-498
- III. **INFRARED IMAGING OF HIPPOCAMPUS AND CORTEX BRAIN REGIONS OF RATS UPON EPILEPTIC SEIZURES**
TÜRKER KAYA S., İLBAY G., HUCK C.
IV. INTERNATIONAL ISTANBUL SCIENTIFIC RESEARCH CONGRESS, İstanbul, Turkey, 2 - 04 April 2021, vol.1, pp.233-234
- IV. **EPILEPTİK SİÇANLARA NEONATAL DÖNEMDE UYGULANAN KAFEİN HİPOKAMPUS VE BEYİNCİK BÖLGELERİNDE PROTEİN İKİNCİL YAPI VE İÇERİĞİNİ ÖNEMLİ ÖLÇÜDE DEĞİŞTİRİR**
TÜRKER KAYA S.
International Symposium of Scientific Research and Innovative Studies, BANDIRMA, Turkey, 22 - 24 February 2021, pp.353-355
- V. **PTZ INDUCED EPILEPTIC SEIZURES AFFECT DIFFERENTLY PROTEIN STRUCTURE AND CONTENS OF RAT BRAIN RIGHT AND LEFT HEMISPHERE**
TÜRKER KAYA S.
II. INTERNATIONAL ANKARA CONFERENCE OF SCIENTIFIC RESEARCH, Ankara, Turkey, 06 March 2020, pp.250-253
- VI. **PTZ ile indüklenen epileptik nöbetler sıçan beyin sağ ve sol hemisferlerin protein yapı ve içeriklerini farklı şekilde etkiler**
TÜRKER KAYA S.
2nd INTERNATIONAL ANKARA CONFERENCE ON SCIENTIFIC RESEARCH, Turkey, 6 - 08 March 2020
- VII. **Analysis of rat blood plasma after acute epileptic seizures by infrared spectroscopy**
TÜRKER KAYA S., İLBAY G.
IV. International Scientific and Vocational Studies-Science and Health, Turkey, 7 - 10 November 2019
- VIII. **6 Aylık Wistar Ve WAG/Rij (Absans Epilepsili) sıçanlarının beyin bokularının FT-IR spektroskopisi ile karşılaştırılması olarak incelenmesi**

- DAĞCI K., İLBAY G., TÜRKER KAYA S.
24. Ulusal Biyoloji Kongresi, Turkey, 10 - 14 September 2018
- IX. **Tonik-klonik epileptik nöbetlerin sıçan sağ ve sol beyin hemisferlerindeki etkilerinin FT-IR spektroskopisi ile incelenmesi**
Yıldırım D., Türker-Kaya S., İlbay G.
24. Ulusal Biyoloji Kongresi, Manisa, Turkey, 10 September 2018, pp.113
- X. **Kafeinin Sıçan Beyni Hipokampüs Ve Serebellum Bölgelerinde Meydana Getirdiği Moleküller Değişikliklerin FT-IR Spektroskopisiyle İncelenmesi**
Şentürk D., Türker-Kaya S., İlbay G.
24. Ulusal Biyoloji Kongresi, Manisa, Turkey, 10 September 2018, pp.119
- XI. **Chemotherapeutic agent carboplatin differently interacts with membrane lipids**
KINA A., TÜRKER KAYA S.
INTERNATIONAL CONFERENCE ON BIOLOGICAL SCIENCES, 21 - 23 October 2016
- XII. **Membran Proteinlerinin Yapısal Değişimlerinin İncelenmesiyle Vigabatrinin Epilepsi Tedavisindeki Rolünün Araştırılması**
Türker S., Severcan M., Komsuoğlu S., Severcan F.
23. Ulusal Biyofizik Kongresi Özeti Kitapçığı, Edirne, Turkey, 13 September 2011, pp.49
- XIII. **Investigation of the effects of different epileptic activities on cell membrane proteins reveals diagnostic information**
Turker S., Severcan M., İlbay G., Severcan F.
12th International Congress on Aminoacids, Peptides and Proteins, Beijing, China, 01 August 2011, vol.41, pp.28
- XIV. **Application of FTIR spectroscopy in disease characterization and diagnosis: The case study of epilepsy**
Severcan F., Türker S., Severcan M.
International Conference on Recent Frontiers in Applied Spectroscopy, India, 22 September 2010, vol.1, pp.3-4
- XV. **The effects of olanzapine in unpredictable chronic mild stress model an FTIR spectroscopic study**
Komsuoğlu İ., Gümüşlu E., Türker S., Mutlu O., Yıldız F., Erden F.
23. Congress Meeting of European College of Neuropsychopharmacology, Netherlands, 28 August 2010, vol.3, pp.499
- XVI. **Investigation of effects of fluoxetine on UCMS induced changes of brain tissue by FTIR spectroscopy**
Turker S., Mutlu O., Komsuoğlu İ., Gümüşlu E., Yıldız F., Erden F.
23. Congress Meeting of European College of Neuropsychopharmacology, Germany, 28 August 2010, vol.20, pp.531-532
- XVII. **α -Tocopherol and Polyunsaturated Fatty Acid Membrane Domains**
Williams J., Shaikh S. R., Locasio D., Türker Görgülü S., Heerklotz H., Stilwell W., Wassal S.
54th Annual Meeting of Biophysical Society, San-Francisco, Costa Rica, 20 February 2010, vol.98, pp.491
- XVIII. **Genetik Olarak İndüklenmiş Epilepsinin Moleküller Etkilerin FTIR spektroskopisi ile İncelenmesi**
Türker Görgülü S., İlbay G., Severcan F.
20. Ulusal Biyofizik Kongresi Özeti Kitabı, Mersin, Turkey, 22 October 2008, vol.1, pp.51-52
- XIX. **Is alpha tocopherol the glue that holds PUFA non raft domains together**
Stilwell W., Locasio D., Turker Gorgulu S., Wassal S.
52nd Annual Meeting of Biophysical Society, Long Beach, United States Of America, 02 February 2008, pp.56
- XX. **Epileptik bir kimyasal olan pentilentetrazolun DPPC model membranı ile etkileşiminin spektroskopik yöntemlerle incelenmesi**
Görgülü S., Wassal S., Stilwell W., Severcan F.
18. Ulusal Biyofizik Kongresi Özeti Kitabı, Ankara, Turkey, 06 September 2006, pp.65
- XXI. **The interaction of Picrotoxin with DPPC Model Membrane**
Turker Gorgulu S., Severcan F., Wassal S., Stilwell W.
60th Annual Meeting of the American-Epilepsy-Society, United States Of America, 01 December 2006, vol.47, pp.236
- XXII. **An FTIR approach to investigate molecular changes induced by epilepsy**

- TÜRKER KAYA S., ATEŞ N., İLBAY G., güneş z., Kara N., SEVERCAN F.
WSEAS TRANSACTIONS on BIOLOGY and MEDICINE, Greece, 20 - 22 September 2005, vol.2, pp.355-358
- XXIII. **The effect of STZ-induced diabetes on lipid structure, function and composition of rat skeletal muscle: an FTIR study**
ERAR H., TÜRKER KAYA S., AKKAŞ S. B., YILMAZ Ö., SEVERCAN F.
WSEAS TRANSACTIONS on BIOLOGY and BIOMEDICINE, Greece, 20 - 22 September 2005, vol.2, pp.351-354
- XXIV. **Kızılıtesi spektroskopisinin bitki taksonomisinde kullanımı**
TÜRKER KAYA S., DOĞAN M., SEVERCAN F.
IX. Ulusal Spektroskopi Kongresi, Turkey, 9 - 11 June 2005
- XXV. **Epilepsinin hücre membranı üzerine etkisi**
Turker Gorgulu S., İlbay G., Severcan F.
IV. Ulusal Sinirbilimleri Kongresi, Turkey, 29 March 2005, vol.4, pp.6-7
- XXVI. **Antiepileptic agent vigabatrin- Model membrane interaction**
Turker Gorgulu S., Deniz O., Komsuoğlu S., Severcan F.
49th Annual Meeting of Biophysical Society, Long Beach, United States Of America, 14 February 2005, pp.418-419
- XXVII. **FT-IR spectroscopic study of streptozotocin-induced diabetic rat liver microsomes**
Görgülü G., Görgülü S., Yılmaz Ö., Severcan F.
13. Balkan Biochemical Biophysical Days, Denizli, Turkey, 12 October 2003, vol.28, pp.72-73

Supported Projects

- TÜRKER KAYA S., Project Supported by Higher Education Institutions, TONİK-KLONİK EPİLEPTİK NÖBETLERİN SİCHAN SAĞ VE SOL BEYİN HEMİSFERLERİNDENDEKİ ETKİLERİNİN BİYOFİZİKSEL VE BİYOKİMYASAL YÖNTEMLER İLE İNCELENMESİ, 2018 - 2019
- TÜRKER KAYA S., İLBAY G., DAĞCI K., Project Supported by Higher Education Institutions, WİSTAR VE WAG/RİJ (ABSANS EPİLEPSİLİ) SİCHANLarda BEYİN DOKUSUNDAKİ YAŞA BAĞLI DEĞİŞİKLİKLERİN FT-IR SPEKTROSKOPİSİ İLE ARAŞTIRILMASI, 2017 - 2019
- TÜRKER KAYA S., Project Supported by Higher Education Institutions, AKCİĞER KANSERİ TEDAVİSİNDE KULLANILAN SİSPLATİN VE KARBOPLATİN İLAÇLARININ MEMBRAN LİPİTLERİ İLE ETKİLEŞMESİNİN BİYOFİZİKSEL YÖNTEMLERLE İNCELENMESİ, 2015 - 2016
- TÜRKER KAYA S., Project Supported by Higher Education Institutions, Yeni Jenerasyon Antiepileptiklerin Hippokampüs ve Amigdala Üzerine Etkilerinin FTIR spektroskopisi ile Moleküler Düzeyde İncelenmesi, 2012 - 2014

Metrics

- Publication: 61
Citation (WoS): 477
Citation (Scopus): 499
H-Index (WoS): 8
H-Index (Scopus): 9