

Res. Asst. PhD Bilge BIÇAK

Personal Information

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Education Information

Doctorate, Istanbul University, Institute Of Graduate Studies In Sciences, Atom Ve Molekül Fiziği Anabilim Dalı, Turkey
2015 - 2021

Postgraduate, Istanbul University, Institute Of Graduate Studies In Sciences, Atom Ve Molekül Fiziği Anabilim Dalı, Turkey
2012 - 2014

Undergraduate, Istanbul University, Faculty Of Science, Fizik Bölümü, Pedagojik Formasyon, Turkey 2009 - 2012

Undergraduate, Istanbul University, Faculty Of Science, Department Of Physics, Turkey 2008 - 2012

Certificates, Courses and Trainings

Vocational Training, NANOPARTİKÜL KARAKTERİZASYON METOTLARI, Lab Akademi , 2020

IT, Python Eğitimi, İstanbul İşletme Enstitüsü, 2020

IT, Temel Programlamaya Giriş Eğitimi, İstanbul İşletme Enstitüsü, 2020

Education Management and Planning, Elsevier Yazar Çalıştayı, Elsevier, 2018

Education Management and Planning, Elsevier Pathway Studio Çalıştayı, Elsevier, 2018

Education Management and Planning, COMPUTER AIDED DRUG DESIGN, SANKO UNIVERSITY, 2017

Education Management and Planning, QUANTUM MATTER AT ULTRALOW TEMPERATURES, INTERNATIONAL SCHOOL OF PHYSICS "ENRICO FERMI", 2014

Education Management and Planning, 7. Uluslararası Katılımlı Parçacık Hızlandırıcıları ve Dedektörleri Yaz Okulu, Türk Fizik Derneği, 2011

Dissertations

Doctorate, DEVELOPMENT of THERAPEUTIC PEPTIDE-LOADED POLYMERIC NANO DRUG FORMULATIONS and INVESTIGATION of THEIR STRUCTURES with MOLECULAR MODELING STUDIES, Istanbul University, Faculty Of Science, Department Of Physics, 2021

Postgraduate, MET-SER DİPEPTİDİNİN TİTREŞİM FREKANS VE KİPLERİNİN KONFORMASYON ANALİZİ VE AB-INITIO DFT YÖNTEMLERİ İLE İNCELENMESİ, Istanbul University, Faculty Of Science, Department Of Physics, 2014

Research Areas

Physics, Atomic and Molecular Physics, Theory of Atoms and Molecules, Atomic and Molecular Interactions, Natural Sciences

Academic Titles / Tasks

Research Assistant PhD, Istanbul University, Faculty Of Science, Department Of Physics, 2021 - Continues
Research Assistant, Istanbul University, Faculty Of Science, Department Of Physics, 2018 - 2021
Researcher, Freie Universitaet Berlin, Fachbereich Physik, Institut Für Theoretische Physik, 2019 - 2019

Courses

Physics-II (uygulama), Undergraduate, 2020 - 2021
Fizik Laboratuvarı-III, Undergraduate, 2020 - 2021
Physics-II (Uyg) (Matematik Bölümü), Undergraduate, 2019 - 2020
Elektrik ve Manyetizma Laboratuvarı (YÖK TEBİP Üstün Başarı Sınıfları), Undergraduate, 2018 - 2019, 2019 - 2020, 2020 - 2021
Atom ve Molekül Fiziği Lab, Undergraduate, 2019 - 2020
Calculus-III (Uyg), Undergraduate, 2019 - 2020, 2020 - 2021
Mekanik Laboratuvarı (YÖK TEBİP Üstün Başarı Sınıfları-Fizik Bölümü), Undergraduate, 2017 - 2018, 2019 - 2020
Atom ve Molekül Fiziği Lab (TEBİP), Undergraduate, 2019 - 2020
Titreşim ve Dalgalar (TEBİP), Undergraduate, 2019 - 2020
Ord. and Par. Dif. Equ. (Uyg), Undergraduate, 2019 - 2020, 2020 - 2021
Mekanik Laboratuvarı (YÖK TEBİP Üstün Başarı Sınıfları-Biyoloji ve Kimya Bölümleri Grubu), Undergraduate, 2017 - 2018, 2019 - 2020
Physics-I (Uyg) (Matematik Bölümü), Undergraduate, 2019 - 2020
Fizik III (Astronomi Yeni Müfredat) Uygulama, Undergraduate, 2018 - 2019
Atom ve Molekül Fiziği I (Uygulama), Undergraduate, 2017 - 2018
Temel Bilgi Teknolojileri (Uygulama), Undergraduate, 2017 - 2018
Fizik III (Astronomi Eski Müfredat) Uygulama, Undergraduate, 2018 - 2019

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Molecular docking studies of YKT tripeptide and drug delivery system with poly(epsilon-caprolactone) nanoparticles**
Bıçak B., Kecel-Gunduz S., Budama-Kilinc Y., Ozdemir B.
ARCHIV DER PHARMAZIE, vol.355, 2022 (Journal Indexed in SCI)
- II. **STRUCTURAL, SPECTROSCOPIC, IN SILICO, IN VITRO AND DNA BINDING EVALUATIONS OF TYROSYL-LYSYL-THREONINE**
Bıçak B., Kecel Gündüz S., Kılınç Y., Imhof P., Gök B., Akman G., Özel A.
Journal Of Biomolecular Structure & Dynamics, vol.1, no.1, pp.1, 2021 (Journal Indexed in SCI)
- III. **Structural Characterization and Drug Delivery System of Natural Growth-Modulating Peptide against Glioblastoma Cancer**
Kılınç Y., Kecel Gündüz S., Çakır Koç R., Aslan B., Bıçak B., Kökcü Y., Özel A., Akyüz S.
International Journal Of Peptide Research And Therapeutics, vol.1, no.1, pp.1-45, 2021 (Journal Indexed in SCI Expanded)
- IV. **PEPTIDE BASED NANO-DRUG CANDIDATE FOR CANCER TREATMENT: PREPARATION, CHARACTERIZATION, IN VITRO AND IN SILICO EVALUATION**
Bıçak B., Kılınç Y., Kecel Gündüz S., Zorlu T., Akman G.
JOURNAL OF MOLECULAR STRUCTURE, vol.1240, pp.130573, 2021 (Journal Indexed in SCI Expanded)
- V. **Computer-Aided Anticancer Drug Design: In vitro and In silico Studies of New Iminocoumarin Derivative**
Kecel Gündüz S., Kılınç Y., Gok B., Bıçak B., Akman G., Arvas B., Aydoğan F., Yolaçan Ç.

JOURNAL OF MOLECULAR STRUCTURE, no.1, pp.1, 2021 (Journal Indexed in SCI Expanded)

- VI. **New nanodrug design for cancer therapy: Its synthesis, formulation, in vitro and in silico evaluations**
KILINÇ Y., Kecel-Gunduz S., Ozdemir B., BIÇAK B., AKMAN G., ARVAS B., AYDOĞAN F., YOLAÇAN Ç.
ARCHIV DER PHARMAZIE, vol.353, no.11, 2020 (Journal Indexed in SCI)
- VII. **In Silico design of AVP (4–5) peptide and synthesis, characterization and in vitro activity of chitosan nanoparticles**
Kecel-Gunduz S., Budama-Kilinc Y., Çakır Koç R., Zorlu T., Bicak B., Kokcu Y., Ozel A., Akyüz S.
DARU, Journal of Pharmaceutical Sciences, vol.28, pp.139-157, 2020 (Journal Indexed in SCI Expanded)
- VIII. **Structural analysis, molecular dynamics and docking calculations of skin protective tripeptide and design, characterization, cytotoxicity studies of its PLGA nanoparticles**
Kokcu Y., Kecel-Gunduz S., Budama-Kilinc Y., Cakir-Koc R., Bicak B., Zorlu T., Ozel A., Akyuz S.
Journal of Molecular Structure, vol.1200, 2020 (Journal Indexed in SCI Expanded)
- IX. **In silico Analysis of Sulpiride, Synthesis, Characterization and In vitro Studies of its Nanoparticle for the Treatment of Schizophrenia**
Kecel-Gunduz S., Budama-Kilinc Y., Cakir-Koc R., Zorlu T., Biçak B., Kokcu Y., Kaya Z., Özel A., Akyuz S.
CURRENT COMPUTER-AIDED DRUG DESIGN, vol.16, no.2, pp.104-121, 2020 (Journal Indexed in SCI)
- X. **Papain Loaded Poly(epsilon-Caprolactone) Nanoparticles: In-silico and In-Vitro Studies**
Budama-Kilinc Y., Cakir-Koc R., Kecel-Gunduz S., Zorlu T., Kokcu Y., Bicak B., Karavelioglu Z., Ozel A. E.
JOURNAL OF FLUORESCENCE, vol.28, pp.1127-1142, 2018 (Journal Indexed in SCI)
- XI. **Computational design of Phe-Tyr dipeptide and preparation, characterization, cytotoxicity studies of Phe-Tyr dipeptide loaded PLGA nanoparticles for the treatment of hypertension**
Kecel-Gunduz S., Budama-Kilinc Y., Koc R. C., Kokcu Y., Bicak B., Aslan B., Ozel A.
Journal of Biomolecular Structure and Dynamics, vol.36, pp.2893-2907, 2018 (Journal Indexed in SCI Expanded)
- XII. **Novel NAC-loaded poly(lactide-coglycolide acid) nanoparticles for cataract treatment: Preparation, characterization, evaluation of structure, cytotoxicity, and molecular docking studies**
Budama-Kilinc Y., Cakir-Koc R., Kecel-Gunduz S., Kokcu Y., Bicak B., Mutlu H., E O.
PeerJ, vol.2018, 2018 (Journal Indexed in SCI Expanded)
- XIII. **Structural and spectroscopic investigation on antioxidant dipeptide, L-Methionyl-L-Serine: A combined experimental and DFT study**
Kecel-Gunduz S., Bicak B., Celik S., Akyuz S., Ozel A.
Journal of Molecular Structure, vol.1137, pp.756-770, 2017 (Journal Indexed in SCI Expanded)

Articles Published in Other Journals

- I. **IN SILICO ANALYSIS FOR CHARACTERIZING THE STRUCTURE AND BINDING PROPERTIES OF ALA-HIS-LYS (AHK) TRIPEPTIDE**
Kecel Gündüz S., Koç E., Biçak B., Kökcü Y., Özel A., Akyüz S.
The Online Journal of Science and Technology, vol.10, no.3, pp.111-120, 2020 (Refereed Journals of Other Institutions)
- II. **The Interaction of Ile-Phe Dipeptide with Phosphatidylinositide 3-Kinase (PI3K): Molecular Dynamics and Molecular Docking Studies**
Biçak B., Kokcu Y., Kecel Gündüz S., Özel A., Akyüz S.
Natural and Engineering Sciences (NESciences), no.1, pp.1, 2020 (Refereed Journals of Other Institutions)
- III. **Molecular Docking and Molecular Dynamics Studies of L-Glycyl-L-Glutamic Acid Dipeptide**
Biçak B., Kecel Gündüz S., Kokcu Y., Özel A., Akyüz S.
Bilge International Journal of Science and Technology Research, vol.3, no.1, pp.1-9, 2019 (Refereed Journals of Other Institutions)
- IV. **COMPUTERISED DESIGNING OF DOXORUBICIN WITH BREAST CANCER CELLS**
Sener L., Gunduz S., Şener A., Bicak B., Kokcu Y., Ozel A., Albeniz I.

JOURNAL OF ISTANBUL FACULTY OF MEDICINE-ISTANBUL TIP FAKULTESİ DERGİSİ, vol.82, no.1, pp.40-46, 2019
(Journal Indexed in ESCI)

- V. **Use of the Comet Assay and Molecular Docking Techniques to Evaluate the Effect of Nicotine in Human Breast Cancer Cell Line**
TÜRKER ŞENER L., KECEL GÜNDÜZ S., Şener A., Çelikok Y., BIÇAK B., KÖKCÜ Y., ÖZEL A., ALBENİZ I.
International Journal of Scientific and Technological Research, vol.4, no.10, pp.1-15, 2018 (Refereed Journals of Other Institutions)

Books & Book Chapters

- I. **Molecular Modeling of Nanoparticles**
Bıçak B., Gök B., Kecel Gündüz S., Kılınç Y.
in: Computer Aided Pharmaceutics and Drug Delivery, Vikas Anand Saharan, Editor, Springer, London/Berlin , New Delhi, pp.35-50, 2021
- II. **Targeted Drug Delivery in Cancer Treatment**
Bıçak B., Kecel Gündüz S., Özel A.
in: Advancements in Cancer Therapeutics , Dr. Sumit Kumar,Dr. Saurabh Verma,Prof. Moshahid Alam Rizvi, Editor, IGI Global, Pennsylvania, pp.382-412, 2021
- III. **Computational Drug Design Methods Used in Cancer Studies**
Kecel Gündüz S., Bıçak B., Özel A.
in: Advancements in Cancer Therapeutics, Dr. Sumit Kumar,Dr. Saurabh Verma,Prof. Moshahid Alam Rizvi, Editor, IGI Global, Pennsylvania, pp.89-115, 2021
- IV. **Drug delivery nanosystems for neural regenerative medicine**
Kecel Gündüz S., Bıçak B., Özel A.
in: NEURAL REGENERATIVE NANOMEDICINE, Mehdi Razavi, Editor, Academic Press , Oxford, pp.89-116, 2020

Refereed Congress / Symposium Publications in Proceedings

- I. **GLY-HIS-LYS TRİPEPTİDİNİN ANJİYOTENSİN DÖNÜŞTÜRÜCÜ ENZİM İLE ETKİLEŞİMLERİNİN MOLEKÜLER KENETLENME YÖNTEMİ İLE İNCELENMESİ**
Bıçak B., Kecel Gündüz S.
5. ULUSAL BAŞKENT DİSİPLİNLER ARASI BİLİMSEL ÇALIŞMALAR KONGRESİ, Ankara, Turkey, 21 - 22 June 2022, pp.1
- II. **Molecular Docking and ADME Analyses of Antihypertensive Dipeptide**
Bıçak B., Kecel Gündüz S.
14. International Conference on Mathematics Engineering Natural and Medical Sciences-EJONS, Paris, France, 6 - 07 July 2022, pp.1
- III. **MOLECULAR DOCKING INVESTIGATION OF PIXANTRONE WITH B-DNA DODECAMER**
Saları A., Kandemir M. C. , BIÇAK B., KECEL GÜNDÜZ S.
Türk Fizik Derneği 35. Uluslararası Fizik Kongresi, Muğla, Turkey, 4 - 08 September 2019, pp.331
- IV. **MOLECULAR DOCKING STUDIES OF PHENYTOIN, MEPHENYTOIN, AND ETHOTOIN WITH CYTOCHROME P450 3A4**
Kandemir M. C. , Saları A., BIÇAK B., KECEL GÜNDÜZ S.
Türk Fizik Derneği 35. Uluslararası Fizik Kongresi, Muğla, Turkey, 4 - 08 September 2019, pp.331
- V. **DNA INTERACTION OF SOME HYDANTOIN-BASED DRUGS WITH MOLECULAR DOCKING CALCULATIONS**
Kandemir M. C. , Saları A., BIÇAK B., KECEL GÜNDÜZ S.
Türk Fizik Derneği 35. Uluslararası Fizik Kongresi, Muğla, Turkey, 4 - 08 September 2019, pp.158
- VI. **MOLECULAR DOCKING CALCULATIONS OF PIXANTRONE WITH TOPOISOMERASE II**

Saları A., Kandemir M. C. , BIÇAK B., KECEL GÜNDÜZ S.

Türk Fizik Derneği 35. Uluslararası Fizik Kongresi, Muğla, Turkey, 4 - 08 September 2019, pp.166

VII. **THEORETICAL CONFORMATIONAL ANALYSIS OF L-ISOLEUCYL-L-PHENYLALANINE DIPEPTIDE**
BIÇAK B., KECEL GÜNDÜZ S., ÖZEL A.

1st International Symposium on Graduate Research in Science, İstanbul, Turkey, 4 - 06 October 2018, pp.9

VIII. **MOLECULAR MODELING OF FAGAAGSAKSAAGTASHVSI PEPTIDE**

KÖKCÜ Y., BIÇAK B., KECEL GÜNDÜZ S., ÖZEL A.

Turkish Physical Society 33 th International Physics Congress, Muğla, Turkey, 6 - 09 September 2017, pp.1

IX. **MOLECULAR DYNAMIC AND DOCKING STUDIES OF RGD PEPTIDE**

BIÇAK B., KÖKCÜ Y., KECEL GÜNDÜZ S., ÖZEL A.

Turkish Physical Society 33 th International Physics Congress, Muğla, Turkey, 6 - 09 September 2017, pp.1

X. **STRUCTURAL ANALYSIS OF SDKGATLTIKKEAFPAESKS PEPTIDE**

BIÇAK B., KÖKCÜ Y., KECEL GÜNDÜZ S., ÖZEL A.

Turkish Physical Society 33 th International Physics Congress, Muğla, Turkey, 6 - 09 September 2017, pp.1

XI. **COMPUTATIONAL DESIGN OF IMMUNOGENIC PEPTIDE**

KECEL GÜNDÜZ S., KÖKCÜ Y., BIÇAK B., ÖZEL A.

Turkish Physical Society 33 th International Physics Congress, Muğla, Turkey, 6 - 09 September 2017, pp.1

XII. **DETERMINATION OF CONFORMATIONAL AND STRUCTURAL FEATURES OF L-GLY-L-GLU DIPEPTIDE**

BIÇAK B., KECEL GÜNDÜZ S., ÖZEL A.

32nd International Physics Congress, Muğla, Turkey, 6 - 09 September 2016, pp.1

XIII. **VIBRATIONAL SPECTROSCOPIC INVESTIGATION OF PROLINE-TYROSINE DIPEPTIDE**

BIÇAK B., KECEL GÜNDÜZ S.

10th International Student Conference Of The Balkan Physical Union, İstanbul, Turkey, 3 - 05 September 2013, pp.18

XIV. **Vibrational Spectroscopic Studies Of Analgesic Peptide**

BIÇAK B., KECEL GÜNDÜZ S.

Turkish Physical Society 30 th International Physics Congress, İstanbul, Turkey, 2 - 05 September 2013, pp.1

Supported Projects

KECEL GÜNDÜZ S., BIÇAK B., ÖZEL A., Project Supported by Higher Education Institutions, Structural analysis molecular dynamics and docking calculations of skin protective tripeptide and design characterization cytotoxicity studies of its PLGA nanoparticles, 2019 - 2022

KECEL GÜNDÜZ S., BIÇAK B., BUDAMA KILINÇ Y., Project Supported by Higher Education Institutions, Terapötik Peptid Yüklü Polimerik Nano İlaç Formülasyonlarının Geliştirilmesi ve Moleküler Modelleme Çalışmaları ile İncelenmesi, 2018 - 2021

ÖZEL A., KECEL GÜNDÜZ S., BIÇAK B., KÖKCÜ Y., Project Supported by Higher Education Institutions, Papain Loaded Polycaprolactone Nanoparticles Insilico and Invitro Studies, 2018 - 2019

KECEL GÜNDÜZ S., BIÇAK B., ÖZEL A., Project Supported by Higher Education Institutions, Computational design of PheTyr dipeptide and preparation characterization cytotoxicity studies of PheTyr dipeptide loaded PLGA nanoparticles for the treatment of hypertension, 2018 - 2019

ÖZEL A., KECEL GÜNDÜZ S., BIÇAK B., Project Supported by Higher Education Institutions, Novel NAC loaded poly lactideglycolide acid nanoparticles for cataract treatment preparation characterization evaluation of structure cytotoxicity and molecular docking studies, 2018 - 2019

KECEL GÜNDÜZ S., ÖZEL A., AKYÜZ S., BIÇAK B., ÇELİK S., Project Supported by Higher Education Institutions, Conformational behavior structural and vibrational characterization of the carboxy terminal dipeptide of b-endorphin, 2018 - 2019

KECEL GÜNDÜZ S., BIÇAK B., Project Supported by Higher Education Institutions, MET-SER Dipeptidinin Titreşim Frekans ve Kiplerinin Konformasyon Analizi ve Ab-Initio DFT Yöntemleri ile İncelenmesi, 2014 - 2015

Patent

Gündüz U., Bıçak B., Kecel Gündüz S., Çok Fonksiyonlu Etkinlik ve Toplantı İzleme, Dinleme, Kayıt, Eğitim ve Sanal Etkileşim Gözlüğü, Patent, CHAPTER A Human Needs, The Invention Recourse Number: 2018/21325 , Standard Registration, 2018

Memberships / Tasks in Scientific Organizations

Türk Fizik Derneği, Member, 2018 - Continues, Turkey

Scientific Refereeing

JOURNAL OF BIOMOLECULAR STRUCTURE & DYNAMICS, Journal Indexed in SCI-E, July 2022

European Journal of Biology, Other Indexed Journal, June 2022

International Journal of Pure and Applied Sciences, Other Indexed Journal, May 2022

International Journal of Secondary Metabolite, Other Indexed Journal, April 2022

International Journal of Secondary Metabolite, Other Indexed Journal, December 2021

Journal Of Biomolecular Structure & Dynamics, Journal Indexed in SCI-E, December 2021

BMC CHEMISTRY, Journal Indexed in SCI-E, October 2021

IGI Global, Chapter Scientific / Professional Book Published by Renowned Publishing Houses, April 2020

IGI Global, Chapter Scientific / Professional Book Published by Renowned Publishing Houses, April 2020

Edit Congress and Symposium Activities

5. ULUSAL BAŞKENT DİSİPLİNLER ARASI BİLİMSEL ÇALIŞMALAR KONGRESİ, Attendee, Ankara, Turkey, 2022

35. Uluslararası Fizik Kongresi, Attendee, İstanbul, Turkey, 2019

Elsevier Yazar Çalıştayı, Attendee, İstanbul, Turkey, 2018

International Symposium on Graduate Research in Science Focus on Entrepreneurship and Innovation (ISGRS 2018), Attendee, İstanbul, Turkey, 2018

BİYOTEKNOLOJİK İLAÇLARDA GELECEK VE TÜRKİYE SEMPOZYUMU, Attendee, İstanbul, Turkey, 2018

ELSEVIER PATHWAY STUDIO ÇALIŞTAYI, Attendee, İstanbul, Turkey, 2018

33. TFD ULUSLARARASI FİZİK KONGRESİ, Attendee, Muğla, Turkey, 2017

Innovation in Medicine Summit-3, Attendee, Gaziantep, Turkey, 2017

32. TFD ULUSLARARASI FİZİK KONGRESİ, Attendee, Muğla, Turkey, 2016

İ.Ü. 4. FİZİK ÇALIŞTAYI, Attendee, Turkey, 2014

10.INTERNATIONAL STUDENT CONFERENCE OF THE BALKAN PHYSICAL UNION, Attendee, İstanbul, Turkey, 2013

30. TFD ULUSLARARASI FİZİK KONGRESİ, Attendee, Turkey, 2013

İ.Ü. 3. FİZİK ÇALIŞTAYI, Attendee, Turkey, 2013

İ.Ü. 2. FİZİK ÇALIŞTAYI, Attendee, İstanbul, Turkey, 2012

7. Uluslararası Katılımlı Parçacık Hızlandırıcıları ve Dedektörleri Yaz Okulu, Attendee, Muğla, Turkey, 2011

İ.Ü. FİZİK ÇALIŞTAYI, Attendee, İstanbul, Turkey, 2011

Citations

Total Citations (WOS):60

h-index (WOS):6

Scholarships

Arařtırma Grevlileri İin Yurt Dıřı Arařtırma Bursları (YUDAB), University, 2019 - 2019