

Asst. Prof. Berkay Sütay

Personal Information

Office Phone: [+90 0212 285 3157](tel:+9002122853157)

Email: sutay@itu.edu.tr

Web: <https://avesis.itu.edu.tr/sutay>

Address: İstanbul Teknik Üniversitesi, Ayazağa Kampüsü, Fen-Edebiyat Fakültesi, Kimya bölümü, Maslak, İstanbul

International Researcher IDs

ScholarID: -IM9onIAAAAJ

ORCID: 0000-0003-4912-199X

Publons / Web Of Science ResearcherID: AAX-7554-2021

ScopusID: 54941333900

Yoksis Researcher ID: 143813

Education Information

Doctorate, Istanbul Technical University, Fen-Edebiyat, Kimya, Turkey 2010 - 2016

Postgraduate, Istanbul Technical University, Fen-Edebiyat, Kimya, Turkey 2009 - 2010

Undergraduate, Yildiz Technical University, Faculty Of Arts & Science, Department Of Chemistry, Turkey 2005 - 2009

Certificates, Courses and Trainings

Occupational Health and Safety, İş Sağlığı ve Güvenliği Eğitimi, Istanbul Technical University, 2016

Vocational Training, Kromatografi ve Kütle Spektrometresi, Thermo Fisher Scientific, 2007

Research Areas

Computational Chemistry, Quantum Mechanics, Spectroscopy

Academic Titles / Tasks

Assistant Professor, Istanbul Technical University, Fen-Edebiyat, Kimya, 2021 - Continues

Research Assistant, Istanbul Technical University, Fen-Edebiyat, Kimya, 2010 - 2016

Courses

Computational Chemistry, Postgraduate, 2022 - 2023, 2021 - 2022

Mathematics For Chemists, Undergraduate, 2022 - 2023

General Chemistry I, Undergraduate, 2022 - 2023, 2021 - 2022

General Chemistry Laboratory I, Undergraduate, 2022 - 2023, 2021 - 2022

Introduction to Quantum Chemistry, Undergraduate, 2022 - 2023

General Chemistry I, Undergraduate, 2022 - 2023

Fiziksel Kimya, Undergraduate, 2021 - 2022

Advising Theses

Sütay B., Computational Study on The Sensing of Explosives, Postgraduate, M.Erdem(Student), 2023

Sütay B., Tüzün N., The investigation of thermo-responsive polymers exhibiting LCST with interactions between water molecules by quantum mechanical methods, Postgraduate, F.Can(Student), 2023

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Synthesis and characterization of tetradentate benzophenone derivative Schiff base and properties in different lyotropic media**
Suhta A., Meral S., Alaman Ağar A., Sütay B., Vazquez Lopez E. M., Çoruh U.
Molecular Crystals and Liquid Crystals, vol.768, no.2, pp.114-131, 2024 (SCI-Expanded)
- II. **Application of aza-BODIPY as a Nitroaromatic Sensor**
Sadikogullari B. C., Koramaz I., Sütay B., Karagöz B., Özdemir A.
ACS Omega, vol.8, no.28, pp.25254-25261, 2023 (SCI-Expanded)
- III. **Synthesis, Photophysical properties and OFET application of thienothiophene and benzothiadiazole based Donor- π -Acceptor- π (D- π -A- π) type conjugated polymers**
Öztürk S. B., İsci R., Farajı S., Sütay B., Majewski L. A., Öztürk T.
European Polymer Journal, vol.191, 2023 (SCI-Expanded)
- IV. **Thienothiophene and Triphenylbenzene Based Electroactive Conjugated Porous Polymer for Oxygen Reduction Reaction (ORR)**
İsci R., Balkan T., Tafazoli S., Sütay B., EROĞLU M. S., Öztürk T.
ACS APPLIED ENERGY MATERIALS, vol.5, no.11, pp.13284-13292, 2022 (SCI-Expanded)
- V. **Copolymers of 3-arylthieno[3,2-b]thiophenes bearing different substituents: Synthesis, electronic, optical, sensor and memory properties**
Gunturkun D., İsci R., Sütay B., Majewski L. A., Farajı S., Öztürk T.
European Polymer Journal, vol.170, 2022 (SCI-Expanded)
- VI. **Triphenylamine/Tetraphenylethylene Substituted 4-Thieno[3,2-b]thiophen-3-ylbenzonitriles: Synthesis, Photophysical-Electronic Properties, and Applications**
İsci R., Varzeghani A. R., Kaya K., Sütay B., Tekin E., Öztürk T.
ACS SUSTAINABLE CHEMISTRY & ENGINEERING, vol.10, pp.1605-1615, 2022 (SCI-Expanded)
- VII. **Influence of hydrogen bond on the mesomorphic behaviour in urethane based liquid crystalline compounds: Experimental and computer simulation study**
Korkmaz B., Ağtas S., Sütay B., Yildirim E., Yılgor I., Yurtsever M., Şenkal B. F., Gürsel Y.
Journal of Molecular Liquids, vol.317, 2020 (SCI-Expanded)
- VIII. **Theoretical design of high-mobility bithiophene imide (BTI) derivative polymeric semiconductors**
Sütay B., Onaran G., Yildirim E., Yurtsever M.
Computational Materials Science, vol.166, pp.162-169, 2019 (SCI-Expanded)
- IX. **Adsorption of dihalogen molecules on pristine graphene surface: Monte Carlo and molecular dynamics simulation studies**
Sütay B., Yurtsever M.
Journal of Molecular Modeling, vol.23, no.5, 2017 (SCI-Expanded)
- X. **A post-HF study on the halogen bonding interaction of pyrene with diatomic halogen molecules**
Sütay B., Yurtsever M., Yurtsever E.
International Journal of Quantum Chemistry, vol.116, no.9, pp.702-709, 2016 (SCI-Expanded)
- XI. **A post-HF study on the interaction of iodine with small polyaromatic hydrocarbons**
Sütay B., Yurtsever M., Yurtsever E.
Journal of Molecular Modeling, vol.20, no.10, pp.1-10, 2014 (SCI-Expanded)
- XII. **Synthesis, characterization and biological activity of a new long-chain imine ligand and some transition metal complexes in solvent-free conditions**

Tüncel Elmali F., Sütay B., Ozbek B., Demirhan N.

Main Group Chemistry, vol.11, no.3, pp.217-222, 2012 (SCI-Expanded)

XIII. Intermolecular interactions in nitrogen-containing aromatic systems

Sütay B., Tekin A., Yurtsever M.

Theoretical Chemistry Accounts, vol.131, no.2, pp.1-13, 2012 (SCI-Expanded)

Articles Published in Other Journals

I. Thieno[3,2-b]thiophene and triphenylamine-based hole transport materials for perovskite solar cells

Isci R., Unal M., Yesil T., Ekici A., Sütay B., ZAFER C., Öztürk T.

Frontiers in Materials, vol.10, 2023 (Scopus)

II. On the Systematics of Mass Spectrometry: A New Graph-Theoretical Method

Sütay B.

Journal of the Turkish Chemical Society Section A: Chemistry, vol.4, no.1, pp.179-196, 2017 (Peer-Reviewed Journal)

Refereed Congress / Symposium Publications in Proceedings

I. A Computational Study on The Sensing of Explosives

Sözbir M. E., Sütay B.

19th International Scientific Research Congress, Ankara, Turkey, 16 - 17 March 2024, pp.39-44

II. A Multi-Reference Study on The Contribution of Nondynamical and Dynamical Electron Correlation to Dissociation Energies of Li₂-F₂ Diatomic Molecules

Sütay B.

19th Asian Chemical Congress, İstanbul, Turkey, 9 - 14 July 2023

III. Application of aza-BODIPY as a Nitroaromatic Sensor

Sadıkoğulları B. C., Koramaz I., Sütay B., Karagöz B., Özdemir A.

19th Asian Chemical Congress, İstanbul, Turkey, 9 - 14 July 2023, pp.292

IV. A Computational Study On Explosive Sensing

Sözbir M. E., Sütay B.

Savunma Sanayii Sempozyumu ve Sergisi '22, Kayseri, Turkey, 13 - 15 October 2022, pp.201-205

V. Experimental and DFT Study on Electronic and Optical Properties of Donor-Acceptor Type Copolymers Containing Thiophene (T), Thienothiophene (TT), Dithienothiophene (DTT) and Bithiazole (NBT) Units

Sütay B., Yurtsever M.

İstanbul International Organic Electronic Symposium, İstanbul, Turkey, 2 - 04 December 2019, pp.1

VI. A DFT study on electronic and optical properties of BTI based oligomers

Sütay B., Yurtsever M.

International Symposium on Chemistry Via Computation, İstanbul, Turkey, 30 October 2017, pp.54

VII. The Investigation of Adsorption Processes of Dihalogen Molecules onto Pristine Graphene Surface via Molecular Dynamics and Monte Carlo Simulations

Sütay B., Yurtsever M.

2nd Graphene and Related Technologies: from Laboratory to Industry symposium, İstanbul, Turkey, 15 - 16 October 2015, pp.1

VIII. Multiscale Modeling And Study On The Exfoliation Of Functionalized Graphene Analogs

Sütay B., Yurtsever M.

ECOSS-30 - 30th European Conference on Surface Science, İstanbul, Turkey, 31 August - 05 September 2014, pp.2

IX. An Ab Initio Study On The Interaction Between Small Functional Graphene Analogs With Iodine

Molecule For The Halogene Intercalation Process Of Graphene Synthesis

Sütay B., Yurtsever M.

ECOSS-30 - 30th European Conference on Surface Science, İstanbul, Turkey, 31 August - 05 September 2014, pp.1

X. An Ab Initio Study on the Interaction of Iodine with Small Polyaromatic Hydrocarbons

Sütay B., Yurtsever M.

10th Chemical Physics Conference, Ankara, Turkey, 10 - 12 October 2012, pp.1

XI. Intermolecular Interactions in Nitrogen containing Aromatic Systems Pyrazine and 1 3 5 triazine dimers

Sütay B., Yurtsever M.

9th Chemical Physics Conference, İzmir, Turkey, 14 - 16 October 2010, pp.1

Supported Projects

Sütay B., Project Supported by Higher Education Institutions, Kuantum Mekanik Yöntemler Kullanılarak Nitroaromatik ve Nitramin Tipi Patlayıcıların Gaz Fazında Etkin Deteksiyonu Üzerine Hesaplamalı Bir Çalışma, 2023 - 2023

Sütay B., Project Supported by Higher Education Institutions, Birinci Sıra Atomların İki Atomlu Moleküllerinin Ayrışma Enerjilerine Dinamik ve Dinamik Olmayan Elektron Korelasyonunun Katkısının Çok Referanslı Yöntemlerle Belirlenmesi, 2022 - 2023

Yurtsever M., TUBITAK Project, Yüksek Mobiliteli Polimerik Yarıiletken Malzemelerin Tasarlanması Özelliklerinin Kuantum Mekanik ve Moleküler Dinamik Simulasyon Yöntemleriyle İncelenmesi, 2015 - 2019

Yurtsever M., Project Supported by Higher Education Institutions, Fonksiyonlaştırmanın grafenin küçük moleküllerle olan etkileşimine elektronik ve dağılma özelliklerine olan etkisinin kuantum mekanik ve MD simulasyon yöntemleriyle incelenmesi, 2014 - 2017

Yurtsever M., Project Supported by Higher Education Institutions, Nitrojen İçeren Aromatik Sistemlerdeki CH Etkileşimlerinin Gelişmiş HF ve DFT SAPT Yöntemleri İle Teorik Olarak İncelenmesi, 2010 - 2014

Yurtsever M., TUBITAK Project, Segmentli Termoplastik Blok Kopolimerlerin Nano Mezo Mikro Ölçekte Modellenmesi ve Özelliklerinin Simulasyon Yöntemleri ile İncelenmesi, 2008 - 2012

Yurtsever M., TUBITAK Project, Poliparafenilen Bazlı Çeşitli Polimerik Nanokompozit Malzemenin Mikroyapısal Özellikleri ile Morfolojik Mekanik Elektronik Ve Optik Özellikleri Arasındaki İlişkilerin Kuantum Mekanik ve İstatistik Mekanik Yöntemlerle İncelenmesi, 2007 - 2010

Activities in Scientific Journals

Journal of the Turkish Chemical Society, Section A: Chemistry, Advisory Committee Member, 2016 - Continues

Scientific Refereeing

TURKISH JOURNAL OF CHEMISTRY, Journal Indexed in SCI-E, September 2022

Journal of the Turkish Chemical Society, Section A: Chemistry, Other Indexed Journal, June 2015

Metrics

Publication: 27

Citation (WoS): 40

Citation (Scopus): 75

H-Index (WoS): 4

H-Index (Scopus): 5

Congress and Symposium Activities

Istanbul International Organic Electronic Symposium, Attendee, İstanbul, Turkey, 2019

International Symposium on Chemistry Via Computation, Attendee, İstanbul, Turkey, 2017

2nd Graphene and Related Technologies: from Laboratory to Industry symposium, Attendee, İstanbul, Turkey, 2015

ECOSS-30 - 30th European Conference on Surface Science, Attendee, İstanbul, Turkey, 2014

ECOSS-30 - 30th European Conference on Surface Science, Attendee, İstanbul, Turkey, 2014

10th Chemical Physics Conference, Attendee, Ankara, Turkey, 2012

9th Chemical Physics Conference, Attendee, İzmir, Turkey, 2010

Awards

Sütay B., Bölüm Üçüncülüğü, Yıldız Teknik Üniversitesi, June 2009