

## Assoc. Prof. Sinan Kutluay



### Personal Information

**Email:** kutluaysinan@itu.edu.tr

**Web:** <https://avesis.itu.edu.tr/kutluaysinan>

**Address:** İstanbul Teknik Üniversitesi Kimya-Metalurji Fakültesi Kimya Mühendisliği  
Bölümü İTÜ Ayazağa Kampüsü, 34469, Maslak, İstanbul



### International Researcher IDs

ScholarID: XEKUhL8AAAAJ

ORCID: 0000-0002-4987-6789

Publons / Web Of Science ResearcherID: KIA-6372-2024

ScopusID: 55600844200

Yoksis Researcher ID: 46171

### Education Information

Doctorate, Selcuk University, Institute Of Science, Turkey 2014 - 2018

Postgraduate, Yıldız Technical University, Graduate School Of Natural And Applied Sciences, Turkey 2010 - 2012

Undergraduate, Yıldız Technical University, Faculty Of Chemical And Metallurgical Engineering, Department Of Chemical Engineering, Turkey 2006 - 2010

### Dissertations

Doctorate, Borik asit ve boraks pentahidrat bileşiklerinin kristalizasyon ile üretim şartlarının CMSMPR sisteminde optimizasyonu ve keleşmenin incelenmesi, Selcuk University, Institute Of Science, 2018

Postgraduate, Süperkritik su ortamında zeytin karasuyunun PT katalizörü kullanılarak hidrotermal arıtımı ve gazlaştırılması, Yıldız Technical University, Graduate School Of Natural And Applied Sciences, 2012

### Research Areas

Chemical Engineering and Technology, Environmental Chemistry and Technology, Catalysis and Catalytic Processes, Separation Operations

### Academic Titles / Tasks

Associate Professor, Istanbul Technical University, Kimya-Metalurji, Kimya Mühendisliği, 2022 - Continues

Associate Professor, Siirt University, Faculty Of Engineering, Chemical Engineering, 2021 - 2022

Assistant Professor, Siirt University, Faculty Of Engineering, Chemical Engineering, 2018 - 2021

Research Assistant, Siirt University, Faculty Of Engineering, Chemical Engineering, 2011 - 2018

### Academic and Administrative Experience

İTÜ Merkezi Laboratuvar - İTÜMER Koordinasyon Kurulu Üyesi, Istanbul Technical University, 2022 - Continues  
Rector's Advisor, Istanbul Technical University, 2022 - Continues  
Manager of Research and Application Center, Siirt University, Research Center For Cooperation Among Public,  
Universities And Industry, 2021 - 2022  
Head of Department, Siirt University, Faculty Of Engineering, Chemical Engineering, 2021 - 2022  
Deputy Head of Department, Siirt University, Faculty Of Engineering, Chemical Engineering, 2019 - 2022

## Courses

Crystallization, Undergraduate, 2022 - 2023  
Chemical Engineering Design II, Undergraduate, 2023 - 2024  
Ölçme ve Kontrol Cihazları, Undergraduate, 2023 - 2024  
Chem. Eng. Design II, Undergraduate, 2022 - 2023  
Kimya Mühendisliğinde Bilgisayar Destekli Tasarım, Undergraduate, 2023 - 2024  
Mass Transfer, Undergraduate, 2022 - 2023  
Kimya Mühendisliğinde Bilgisayar Destekli Tasarım , Undergraduate, 2022 - 2023

## Advising Theses

Baytar O., Kutluay S., Fonksiyonlaştırılmış hidrocharların metilen mavisi ve karbondioksit adsorpsiyon özelliklerinin incelenmesi, Postgraduate, M.METİN(Student), 2024  
Kutluay S., Perlit destekli manyetik nanoparçacıklar ile çok bileşenli bir sistemde uçucu organik bileşiklerin dinamik rekabetçi adsorpsiyon davranışının değerlendirilmesi, Postgraduate, R.AÇIN(Student), 2022  
Kutluay S., RSM optimizasyonu ile çörekotu (Nigella Sativa L.) atık biyokütlesi-esaslı üretilen aktif karbon kullanılarak uçucu organik bileşiklerin giderilmesi ve fotovoltaik uygulamalarının incelenmesi, Postgraduate, E.BATUR(Student), 2021

## Jury Memberships

Doctorate, Doctorate, Yıldız Teknik Üniversitesi, March, 2023  
Post Graduate, Post Graduate, Siirt Üniversitesi, November, 2022  
Appointment to Academic Staff-Assistant Professorship, Appointment to Academic Staff-Assistant Professorship, Siirt Üniversitesi, August, 2022  
Appointment to Academic Staff-Assistant Professorship, Appointment to Academic Staff-Assistant Professorship, Siirt Üniversitesi, July, 2022

## Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Potential of nickel oxide catalyst from banana peel extract via green synthesis method in both photocatalytic reduction of methylene blue and generation of hydrogen from sodium borohydride hydrolysis**  
Şahin Ö., Baytar O., Kutluay S., Ekinçi A.  
Journal of Photochemistry and Photobiology A: Chemistry, vol.448, 2024 (SCI-Expanded)
- II. **Enhanced benzene vapor adsorption through microwave-assisted fabrication of activated carbon from peanut shells using ZnCl<sub>2</sub> as an activating agent**  
Kutluay S., Şahin Ö., Baytar O.  
Environmental Science and Pollution Research, 2024 (SCI-Expanded)
- III. **Novel adsorbent for malachite green from okra stalks waste: synthesis, kinetics and equilibrium studies**

Yildiz H., Gülşen H., Şahin Ö., Baytar O., Kutluay S.

International Journal of Phytoremediation, vol.26, no.3, pp.369-381, 2024 (SCI-Expanded)

- IV. **Solar Cell Efficiency Enhancement Via Mulberry Molasses-Based Carbon Quantum Dot-Supported CdS and CdS-Mn Nanomaterials**  
Baytar O., Şahin Ö., Horoz S., Kutluay S.  
Waste and Biomass Valorization, 2024 (SCI-Expanded)
- V. **Green synthesis of NiO from watermelon seed shell extract for the evaluation of H<sub>2</sub> production from NaBH<sub>4</sub> hydrolysis and photocatalytic reduction of methylene blue**  
Baytar O., Ekinçi A., Şahin Ö., Kutluay S.  
Materials Science and Engineering: B, vol.296, 2023 (SCI-Expanded)
- VI. **Designing novel perlite-Fe<sub>3</sub>O<sub>4</sub>@SiO<sub>2</sub>@8-HQ-5-SA as a promising magnetic nanoadsorbent for competitive adsorption of multicomponent VOCs**  
Açın Ok R., Kutluay S.  
Chemosphere, vol.338, 2023 (SCI-Expanded)
- VII. **Superior incident photon-to-current conversion efficiency of Mo-doped activated carbon supported CdS-sensitized solar cells**  
Batur E., Kutluay S., Baytar O., Şahin Ö., Horoz S.  
ENVIRONMENTAL SCIENCE AND POLLUTION RESEARCH, vol.30, no.8, pp.19766-19775, 2023 (SCI-Expanded)
- VIII. **High solar cell efficiency of lanthanum-alloyed activated carbon-supported cadmium sulfide as a promising semiconductor nanomaterial**  
Batur E., Baytar O., Horoz S., Kutluay S., Şahin Ö.  
JOURNAL OF THE AUSTRALIAN CERAMIC SOCIETY, vol.59, no.1, pp.9-18, 2023 (SCI-Expanded)
- IX. **Green synthesis of copper oxide and manganese oxide nanoparticles from watermelon seed shell extract for enhanced photocatalytic reduction of methylene blue**  
Ekinçi A., Kutluay S., Şahin Ö., Baytar O.  
INTERNATIONAL JOURNAL OF PHYTOREMEDIATION, vol.25, no.6, pp.789-798, 2023 (SCI-Expanded)
- X. **Enhancement in incident photon-to-current conversion efficiency of manganese-decorated activated carbon-supported cadmium sulfide nanocomposite**  
Batur E., Baytar O., Horoz S., Şahin Ö., Kutluay S.  
JOURNAL OF MATERIALS SCIENCE-MATERIALS IN ELECTRONICS, vol.33, no.20, pp.16286-16296, 2022 (SCI-Expanded)
- XI. **Dynamic adsorption behavior of benzene, toluene, and xylene VOCs in single- and multi-component systems by activated carbon derived from defatted black cumin (*Nigella sativa* L.) biowaste**  
Batur E., Kutluay S.  
JOURNAL OF ENVIRONMENTAL CHEMICAL ENGINEERING, vol.10, no.3, 2022 (SCI-Expanded)
- XII. **Comparative and competitive adsorption of gaseous toluene, ethylbenzene, and xylene onto natural cellulose-modified Fe<sub>3</sub>O<sub>4</sub> nanoparticles**  
Ece M. S., Kutluay S.  
JOURNAL OF ENVIRONMENTAL CHEMICAL ENGINEERING, vol.10, no.2, 2022 (SCI-Expanded)
- XIII. **Fabrication and characterization of Fe<sub>3</sub>O<sub>4</sub>/perlite, Fe<sub>3</sub>O<sub>4</sub>/perlite@SiO<sub>2</sub>, and Fe<sub>3</sub>O<sub>4</sub>/perlite@SiO<sub>2</sub>@sulfanilamide magnetic nanomaterials**  
Kutluay S., Sahin Ö., Ece M. S.  
Applied Physics A: Materials Science and Processing, vol.128, no.3, 2022 (SCI-Expanded)
- XIV. **Preparation and characterization of activated carbon from hydrochar by hydrothermal carbonization of chickpea stem: an application in methylene blue removal by RSM optimization**  
Genli N., Kutluay S., Baytar O., Sahin Ö.  
INTERNATIONAL JOURNAL OF PHYTOREMEDIATION, vol.24, no.1, pp.88-100, 2022 (SCI-Expanded)
- XV. **Highly improved solar cell efficiency of Mn-doped amine groups-functionalized magnetic Fe<sub>3</sub>O<sub>4</sub>@SiO<sub>2</sub> nanomaterial**  
Kutluay S., Horoz S., Sahin Ö., Ekinçi A., Ece M. S.  
INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.45, no.14, pp.20176-20185, 2021 (SCI-Expanded)

- XVI. **Facile synthesis and comprehensive characterization of Ni-decorated amine groups-immobilized Fe<sub>3</sub>O<sub>4</sub>@SiO<sub>2</sub> magnetic nanoparticles having enhanced solar cell efficiency**  
Ece M. S., Ekinci A., Kutluay S., Sahin Ö., Horoz S.  
JOURNAL OF MATERIALS SCIENCE-MATERIALS IN ELECTRONICS, vol.32, no.13, pp.18192-18204, 2021 (SCI-Expanded)
- XVII. **Excellent adsorptive performance of novel magnetic nano-adsorbent functionalized with 8-hydroxyquinoline-5-sulfonic acid for the removal of volatile organic compounds (BTX) vapors**  
Kutluay S.  
FUEL, vol.287, 2021 (SCI-Expanded)
- XVIII. **Fabrication and characterization of 3,4-diaminobenzophenone-functionalized magnetic nanoadsorbent with enhanced VOC adsorption and desorption capacity**  
Sahin Ö., Kutluay S., Horoz S., Ece M. S.  
ENVIRONMENTAL SCIENCE AND POLLUTION RESEARCH, vol.28, no.5, pp.5231-5253, 2021 (SCI-Expanded)
- XIX. **Silica gel based new adsorbent having enhanced VOC dynamic adsorption/desorption performance**  
Kutluay S., Temel F.  
COLLOIDS AND SURFACES A-PHYSICOCHEMICAL AND ENGINEERING ASPECTS, vol.609, 2021 (SCI-Expanded)
- XX. **A comprehensive new study on the removal of Pb (II) from aqueous solution by sirnak coal-derived char**  
Batur E., Baytar O., Kutluay S., Horoz S., Sahin Ö.  
ENVIRONMENTAL TECHNOLOGY, vol.42, no.3, pp.505-520, 2021 (SCI-Expanded)
- XXI. **Development of Novel Fe<sub>3</sub>O<sub>4</sub>/AC@SiO<sub>2</sub>@1,4-DAAQ Magnetic Nanoparticles with Outstanding VOC Removal Capacity: Characterization, Optimization, Reusability, Kinetics, and Equilibrium Studies**  
Ece M. S., Kutluay S., Sahin Ö., Horoz S.  
INDUSTRIAL & ENGINEERING CHEMISTRY RESEARCH, vol.59, no.48, pp.21106-21123, 2020 (SCI-Expanded)
- XXII. **Investigation of high-performance adsorption for benzene and toluene vapors by calix[4]arene based organosilica (CBOS)**  
Temel F., Kutluay S.  
NEW JOURNAL OF CHEMISTRY, vol.44, no.30, pp.12949-12961, 2020 (SCI-Expanded)
- XXIII. **High-performance gas-phase adsorption of benzene and toluene on activated carbon: response surface optimization, reusability, equilibrium, kinetic, and competitive adsorption studies**  
Baytar O., Sahin Ö., Horoz S., Kutluay S.  
ENVIRONMENTAL SCIENCE AND POLLUTION RESEARCH, vol.27, no.21, pp.26191-26210, 2020 (SCI-Expanded)
- XXIV. **Utilization of In Situ FBRM and PVM Probes to Analyze the Influences of Monopropylene Glycol and Oleic Acid as Novel Additives on the Properties of Boric Acid Crystals**  
Kutluay S., Ceyhan A. A., Sahin Ö., Izgi M. S.  
INDUSTRIAL & ENGINEERING CHEMISTRY RESEARCH, vol.59, no.19, pp.9198-9206, 2020 (SCI-Expanded)
- XXV. **Equilibrium, kinetic and thermodynamic studies for dynamic adsorption of benzene in gas phase onto activated carbon produced from elaeagnus angustifolia seeds**  
Kutluay S., Baytar O., Sahin Ö.  
JOURNAL OF ENVIRONMENTAL CHEMICAL ENGINEERING, vol.7, no.2, 2019 (SCI-Expanded)
- XXVI. **Design and optimization of production parameters for boric acid crystals with the crystallization process in an MSMR crystallizer using FBRM (R) and PVM (R) technologies**  
Kutluay S., Sahin Ö., Ceyhan A. A., Izgi M. S.  
JOURNAL OF CRYSTAL GROWTH, vol.467, pp.172-180, 2017 (SCI-Expanded)
- XXVII. **Cold plasma and microwave radiation applications for surface modification on the pistachio husk-based adsorbent and its effects on the adsorption of rhodamine B**  
Saka C., Sahin Ö., Kutluay S.  
ENERGY SOURCES PART A-RECOVERY UTILIZATION AND ENVIRONMENTAL EFFECTS, vol.38, no.3, pp.339-346, 2016 (SCI-Expanded)
- XXVIII. **Cold plasma and microwave radiation applications on almond shell surface and its effects on the adsorption of Eriochrome Black T**

## Articles Published in Other Journals

- I. **Synthesis and Characterization of Activated Carbon from Waste Biomass (Tobacco Stalk) by Microwave Assisted Impregnation Method**  
YILDIZ H., GÜLŞEN H., ŞAHİN Ö., BAYTAR O., KUTLUAY S.  
Harran University Journal of Engineering, vol.7, no.1, pp.1-14, 2022 (Peer-Reviewed Journal)
- II. **Derik Halhalı Zeytin Çekirdeğinden Çevre Dostu Selülozik Manyetik Nano-Adsorbent Üretimi ve Benzen Gideriminde Kullanılması**  
KUTLUAY S., ECE M. Ş., ŞAHİN Ö., KAHRAMAN Z., ÖNAL F., ATKU F.  
Bitlis Eren Üniversitesi Fen Bilimleri Dergisi, vol.10, no.4, pp.1535-1550, 2021 (Peer-Reviewed Journal)
- III. **Silica-coated magnetic Fe<sub>3</sub>O<sub>4</sub> nanoparticles as efficient nano-adsorbents for the improvement of the vapor-phase adsorption of benzene**  
Ece M. Ş., Kutluay S., Şahin Ö.  
International Journal of Chemistry and Technology (IJCT), vol.5, no.1, pp.33-41, 2021 (Peer-Reviewed Journal)
- IV. **Synthesis of magnetic Fe<sub>3</sub>O<sub>4</sub>/AC nanoparticles and its application for the removal of gas-phase toluene by adsorption process**  
Kutluay S., Ece M. Ş., Şahin Ö.  
International Journal of Chemistry and Technology (IJCT), vol.4, no.2, pp.146-155, 2020 (Peer-Reviewed Journal)
- V. **Borik Asit ve Boraks Pentahidrat Kristalleri için Kekleşmenin İncelenmesi**  
KUTLUAY S., İZGİ M. S., ŞAHİN Ö., CEYHAN A. A.  
Bitlis Eren Üniversitesi Fen Bilimleri Dergisi, vol.9, no.3, pp.985-996, 2020 (Peer-Reviewed Journal)
- VI. **OPTIMIZATION OF PROCESS CONDITIONS FOR ADSORPTION OF METHYLENE BLUE ON FORMALDEHYDE-MODIFIED PEANUT SHELLS USING BOX-BEHNKEN EXPERIMENTAL DESIGN AND RESPONSE SURFACE METHODOLOGY**  
KUTLUAY S., BAYTAR O., ŞAHİN Ö., ARRAN A.  
European Journal of Technique, vol.10, no.1, pp.131-142, 2020 (Peer-Reviewed Journal)
- VII. **Benzen Uçucu Organik Bileşiğinin Badem Kabuğundan Üretilen Char Üzerine Gaz Fazı Adsorpsiyonu: Kinetik, Denge ve Termodinamik**  
KUTLUAY S.  
Bitlis Eren Üniversitesi Fen Bilimleri Dergisi, vol.8, no.4, pp.1432-1445, 2019 (Peer-Reviewed Journal)
- VIII. **Adsorption kinetics, equilibrium and thermodynamics of gas-phase toluene onto char produced from almond shells**  
KUTLUAY S., BAYTAR O., ŞAHİN Ö.  
Research on Engineering Structures and Materials, vol.5, no.3, pp.279-298, 2019 (Scopus)
- IX. **Simultaneous Treatment and Catalytic Gasification of Olive Mill Wastewater under Supercritical Conditions**  
KIPÇAK E., KUTLUAY S., AKGÜN M.  
International Scholarly and Scientific Research & Innovation, vol.6, no.11, pp.1075-1080, 2012 (Peer-Reviewed Journal)

## Books & Book Chapters

- I. **MANYETİK Fe<sub>3</sub>O<sub>4</sub>/PERLİT@SiO<sub>2</sub> NANOADSORBENTİ VARLIĞINDA TOLUENİN GAZ ADSORPSİYON PROSESİNİN DENEYSEL TASARIMI**  
ECE M. Ş., KUTLUAY S., ŞAHİN Ö.  
in: KİMYA ARAŞTIRMALARI-1, , Editor, IKSAD INTERNATIONAL PUBLISHING HOUSE, pp.31-41, 2020

- II. **SİLİKA-KAPLI MANYETİT/AKTİF KARBON MANYETİK NANOPARÇACIKLAR (MNP) KULLANILARAK TOLUENİN GAZ ADSORPSİYON PROSESİNİN OPTİMİZASYONU**  
ECE M. Ş., KUTLUAY S., ŞAHİN Ö.  
in: NANOMALZEME SENTEZİ VE GÜNCEL KULLANIM ALANLARI, , Editor, IKSAD INTERNATIONAL PUBLISHING HOUSE, pp.31-45, 2020
- III. **PERLİT DESTEKLİ Fe<sub>3</sub>O<sub>4</sub> NANOPARTİKÜLLERİN GAZ-FAZINDAKİ BENZENİN UZAKLAŞTIRILMASINDA KULLANIMININ İNCELENMESİ**  
ECE M. Ş., KUTLUAY S.  
in: KİMYA ARAŞTIRMALARI-1, , Editor, IKSAD INTERNATIONAL PUBLISHING HOUSE, pp.16-30, 2020
- IV. **AKTİF KARBON İLE İŞLEVSELLEŞTİRİLMİŞ MANYETİT MANYETİK NANOPARÇACIKLARIN SENTEZLENMESİ VE BENZEN BUHARININ GİDERİMİ İÇİN UYGULANMASI**  
KUTLUAY S., ECE M. Ş., ŞAHİN Ö.  
in: NANOMALZEME SENTEZİ VE GÜNCEL KULLANIM ALANLARI, , Editor, IKSAD INTERNATIONAL PUBLISHING HOUSE, pp.71-86, 2020

### Refereed Congress / Symposium Publications in Proceedings

- I. **Karpuz Çekirdeği Ekstrağından CoO Nanoparçacığının Sentezlenmesi ve Karakterizasyonu**  
BAYTAR O., EKİNCİ A., KUTLUAY S.  
3rd International Conference on Innovative Academic Studies, Konya, Turkey, 26 - 28 September 2023
- II. **Potasyum Borhidrür Hidrolizinden Hidrojen Üretimi İçin Co-Mn-B Katalizörün Etkinliğinin İncelenmesi**  
BAYTAR O., ŞAHİN Ö., DEMİR H., KUTLUAY S., İZGİ M. S.  
3rd International Conference on Innovative Academic Studies, Konya, Turkey, 26 - 28 September 2023
- III. **Potasyum Tetraborat Tetrahidrat Kristallerinin Partikül Boyut Dağılımı ve Habitine Etki Eden Parametrelerin MSMPR Tipi Kristalizörde İncelenmesi**  
Biberoğlu R., Uslu K., Erdemir Guran S., Öksüz E., Şahin Ö., Kutluay S.  
Uluslararası Bor Sempozyumu (BORON2022), İstanbul, Turkey, 5 - 07 October 2022
- IV. **TOLUEN UÇUCU ORGANİK BİLEŞİĞİNİN ŞIRNAK KÖMÜRÜNDEN ÜRETİLEN CHAR ÜZERİNE ADSORPSİYONU İÇİN PROSES KOŞULLARININ OPTİMİZASYONU**  
BATUR E., KUTLUAY S.  
3. ULUSLARARASI GAP MATEMATİK-MÜHENDİSLİK-FEN VE SAĞLIK BİLİMLERİ KONGRESİ, Turkey, 29 November - 01 December 2019
- V. **BOX-BEHNKEN RESPONSE SURFACE METHODOLOGY FOR OPTIMIZATION OF PROCESS PARAMETERS FOR GAS ADSORPTION OF TOLUENE ONTO Fe<sub>3</sub>O<sub>4</sub> NANO-ADSORBENT**  
KUTLUAY S., ŞAHİN Ö., BAYTAR O.  
3rd International Conference on Applications in Chemistry and Chemical Engineering (ICACCHE), Macedonia, 11 - 15 September 2019
- VI. **THE ADSORPTION OF METHYLENE BLUE BY RESPONSE SURFACE METHOD**  
KUTLUAY S., ŞAHİN Ö., BAYTAR O.  
3rd International Conference on Applications in Chemistry and Chemical Engineering (ICACCHE), Macedonia, 11 - 15 September 2019
- VII. **AN OPTIMIZATION STUDY ON GAS ADSORPTION APPLICATION OF TOLUENE BY USING FORMALDEHYDE-TREATED PISTACHIO SHELLS**  
KUTLUAY S., ŞAHİN Ö., BAYTAR O.  
3rd International Conference on Applications in Chemistry and Chemical Engineering (ICACCHE), Macedonia, 11 - 15 September 2019
- VIII. **APPLICATION OF RESPONSE SURFACE METHODOLOGY FOR MODELING OF GAS-PHASE ADSORPTION PROCESS OF BENZENE**  
KUTLUAY S., ŞAHİN Ö., BAYTAR O.

3rd International Conference on Applications in Chemistry and Chemical Engineering (ICACCHE), Macedonia, 10 - 15 September 2019

- IX. **INVESTIGATION OF MALACHITE GREEN ADSORPTION WITH RESPONSE SURFACE METHOD**  
KUTLUAY S., ŞAHİN Ö., BAYTAR O.  
3rd International Conference on Applications in Chemistry and Chemical Engineering (ICACCHE), Macedonia, 11 - 15 September 2019
- X. **CHAR ADSORBENTİ KULLANILARAK BENZENİN GAZ ADSORPSİYON PROSESİNİN OPTİMİZASYONU ÜZERİNE YANIT YÜZEY METODU İLE BİR MODELLEME ÇALIŞMASI**  
BATUR E., KUTLUAY S.  
3. ULUSLARARASI GAP MATEMATİK-MÜHENDİSLİK-FEN VE SAĞLIK BİLİMLERİ KONGRESİ, Turkey, 29 November - 01 December 2019
- XI. **p-ter-Bütikaliks[4]arenin Gaz Fazındaki Benzen Adsorpsiyon Kapasitesinin İncelenmesi**  
TEMEL F., KUTLUAY S., BAYTAR O., TABAKCI M., ŞAHİN Ö.  
International Natural and Engineering Sciences Congress (IV. INSAC), Turkey, 11 - 13 October 2019
- XII. **Toluenin p-ter-Bütikaliks[4]aren Üzerine Adsorpsiyonunda Merkezi Kompozit Tasarımın Uygulanması**  
KUTLUAY S., TEMEL F., BAYTAR O., ŞAHİN Ö., TABAKCI M.  
International Natural and Engineering Sciences Congress (IV. INSAC), Konya, Turkey, 11 - 13 October 2019
- XIII. **BENZENİN GAZ-FAZI ADSORPSİYONU İÇİN YENİ BİR ADSORBENT OLARAK Fe<sub>3</sub>O<sub>4</sub> NANOPARÇACIKLARIN SENTEZLENMESİ**  
ECE M. Ş., ŞAHİN Ö., KUTLUAY S.  
2. ULUSLARARASI MARDİN ARTUKLU BİLİMSEL ARAŞTIRMALAR KONGRESİ, Turkey, 23 - 25 August 2019
- XIV. **MANYETİK Fe<sub>3</sub>O<sub>4</sub>@SiO<sub>2</sub> NANO-ADSORBENTİN TOLUENİN GAZ-FAZI ADSORPSİYONU İÇİN KULLANIMI**  
ECE M. Ş., KUTLUAY S., ŞAHİN Ö.  
2. ULUSLARARASI MARDİN ARTUKLU BİLİMSEL ARAŞTIRMALAR KONGRESİ, Turkey, 23 - 25 August 2019
- XV. **Malahit Yeşilinin Modifiye Edilmiş Fıstık Kabuğu kullanılarak Adsorpsiyonun Yanıt Yüzey Yöntemi ile İncelenmesi**  
BAYTAR O., KUTLUAY S., ŞAHİN Ö., ARRAN A.  
Uluslararası Bilim ve Mühendislik Sempozyumu'19, Turkey, 20 - 22 June 2019
- XVI. **Box-Behnken Deneysel Tasarımı ve Yanıt Yüzeyi Metodu (RSM) Kullanılarak Metilen Mavisinin Formaldehit ile Modifiye Edilmiş Fıstık Kabukları Üzerine Adsorpsiyonu için Proses Koşullarının Optimizasyonu**  
KUTLUAY S., BAYTAR O., ŞAHİN Ö., ARRAN A.  
Uluslararası Bilim ve Mühendislik Sempozyumu'19, Turkey, 20 - 22 June 2019
- XVII. **Investigation of Adsorption Kinetics, Equilibrium and Thermodynamics of Toluene Vapor onto Formaldehyde-Treated Walnut Shells**  
BAYTAR O., ŞAHİN Ö., KUTLUAY S.  
2. INTERNATIONAL CONFERENCE ON APPLICATION IN CHEMISTRY AND CHEMICAL ENGINEERING (ICACCHE), Belgrade, Serbia, 10 - 14 October 2018
- XVIII. **Adsorption of Gas-Phase Benzene onto Formaldehyde-Treated Walnut shells: Kinetics, Equilibrium and Thermodynamics**  
KUTLUAY S.  
2nd International Conference on Applications in Chemistry and Chemical Engineering (ICACCHE), Serbia, 10 - 14 October 2018
- XIX. **CaSO<sub>4</sub>·2H<sub>2</sub>O ve MgSO<sub>4</sub> Safsızlıklarının Borik Asitin Endüstriyel Kristalizasyon Prosesine Etkileri**  
KUTLUAY S., ŞAHİN Ö., CEYHAN A. A.  
1st INTERNATIONAL ENGINEERING AND TECHNOLOGY SYMPOSIUM (1st IETS), Turkey, 3 - 05 May 2018
- XX. **Effects of CaSO<sub>4</sub>·2H<sub>2</sub>O and MgSO<sub>4</sub> impurities on industrial crystallization process of boric acid**  
KUTLUAY S., ŞAHİN Ö., CEYHAN A. A.  
International Engineering and Technology Symposium (IETS'18), 3 - 05 May 2018
- XXI. **Investigation of borax pentahydrate crystallization in the CMSMPR system-the effects of CaSO<sub>4</sub>·2H<sub>2</sub>O**

### and MgSO<sub>4</sub> impurities

KUTLUAY S., ŞAHİN Ö., CEYHAN A. A.

International Engineering and Technology Symposium (IETS'18), 3 - 05 May 2018

- XXII. **CMSMPR Sisteminde Boraks Pentahidrat Kristalizasyonunun İncelenmesi - CaSO<sub>4</sub>·2H<sub>2</sub>O ve MgSO<sub>4</sub> Safsızlıklarının Etkileri**  
KUTLUAY S., ŞAHİN Ö., CEYHAN A. A.  
1st INTERNATIONAL ENGINEERING AND TECHNOLOGY SYMPOSIUM (1st IETS), Turkey, 3 - 05 May 2018
- XXIII. **Determination of Borax Pentahydrate Crystal Size Distribution and Shape in a CMSMPR Crystallizer-the Effect of Supersaturation, Feed Flow Rate and Stirring Speed with Time**  
KUTLUAY S., CEYHAN A. A., DEMİR H., ŞAHİN Ö.  
The International Conference on Applications in Chemistry and Chemical Engineering (ICACCHE), Bosnia And Herzegovina, 11 - 15 October 2017
- XXIV. **Evolution of Boric Acid Crystal Size Distribution and Shape in a CMSMPR Crystallizer-the Effect of Residence Time, Stirring Speed, Feed Flow Rate and Amount of Supersaturation**  
KUTLUAY S., ŞAHİN Ö., CEYHAN A. A., İZGİ M. S.  
International Conference on Applications in Chemistry and Chemical Engineering, 11 - 15 October 2017
- XXV. **The optimization of production parameters for borax pentahydrate crystals with the crystallization process in a modified continuous cooling MSMPR crystallizer using FBRM® and PVM® probes**  
KUTLUAY S., ŞAHİN Ö., CEYHAN A. A., İZGİ M. S.  
1st International Mediterranean Science and Engineering Congress (IMSEC 2016), Adana, Turkey, 26 - 28 October 2016
- XXVI. **Ni-W-B KATALİZÖRÜ VARLIĞINDA SODYUM BORHİDRÜRÜN HİDROLİZİNDEN HİDROJEN ÜRETİMİ**  
KUTLUAY S., ŞAHİN Ö., BAYTAR O.  
9. Ulusal Temiz Enerji Sempozyumu, Turkey, 25 - 28 December 2013
- XXVII. **Simultaneous Treatment and Catalytic Gasification of Olive Mill Wastewater under Supercritical Conditions**  
KIPÇAK E., KUTLUAY S., AKGÜN M.  
International Conference on Chemical Engineering, Paris, France, 28 - 29 November 2012
- XXVIII. **Süperkritik Su Ortamında 2-Propanolün Katalitik Gazlaştırılması**  
AYNACI F., KUTLUAY S., KIPÇAK E., AKGÜN M.  
Onuncu Ulusal Kimya Mühendisliği Kongresi (UKMK-10), İstanbul, Turkey, 3 - 06 September 2012
- XXIX. **Süperkritik Su Ortamında Zeytin Karasuyunun Pt Katalizörü Kullanılarak Hidrotermal Arıtımı ve Gazlaştırılması**  
KUTLUAY S., AYNACI F., KIPÇAK E., AKGÜN M.  
Onuncu Ulusal Kimya Mühendisliği Kongresi (UKMK-10), İstanbul, Turkey, 3 - 06 September 2012

### Supported Projects

Kutluay S., Saygılı G., Öztürk Er E., Sezer S., Project Supported by Higher Education Institutions, Yeni nesil kükürt fonksiyonlu SnVO<sub>4</sub>/MoS<sub>2</sub>, MoS<sub>2</sub>/Fe<sub>3</sub>O<sub>4</sub>-SiO<sub>2</sub>, ZnS/BN, CuMoS<sub>2</sub>/WO<sub>3</sub> metal oksit nanokompozitlerin ağır metal adsorpsiyonu ve boyarmadde fotokatalitik degradasyonu performansının belirlenmesi, 2023 - Continues

Kutluay S., Şahin Ö., Haskan N., Project Supported by Higher Education Institutions, Grafen/metal oksit nanokompozitlerin USP yöntemi ile üretimi ve CO<sub>2</sub> adsorpsiyonu için uygulanması, 2022 - 2024

Şahin Ö., Kutluay S., Gürbüz H., Genceli Güner F. E., Kenar M. E., Project Supported by Higher Education Institutions, Grafit Karbon Nitrür ve SilikaJel Destek Malzemelerine Metal Katalizörlerin Yüklenmesi ve Sodyum Borhidrürün Hidrolizinde Kullanımı, 2022 - 2023

Şahin Ö., Kutluay S., BOREN, Ulusal Bor Araştırma Enstitüsü Projesi, Potasyum Tetraborat Tetrahidratın ve Ultrasaf Borik Asitin Kristalizasyonla Üretiminde Partikül Boyutunun Kontrolü/Kekleşme Sorununun Giderilmesi (TENMAK-BOREN, 2020-30-06-30-001), 2020 - 2023

Kutluay S., Project Supported by Higher Education Institutions, Perlit destekli manyetik nanoparçacıklar ile çok bileşenli

bir sistemde uçucu organik bileşiklerin dinamik rekabetçi adsorpsiyon davranışının değerlendirilmesi (Proje No: 2021-SİÜFEB-054), 2021 - 2022

Kutluay S., Project Supported by Higher Education Institutions, Dut pekmezinden hazırlanan karbon kuantum noktalarının fotokatalitik, fotovoltaiik ve gaz adsorpsiyonu uygulamalarının değerlendirilmesi (Proje No: 2021-SİÜMÜH-12), 2021 - 2022

Kutluay S., Project Supported by Higher Education Institutions, RSM Optimizasyonu ile Çörekotu (*Nigella Sativa* L.) Atık Biyokütlesi-Esashlı Üretilen Aktif Karbon Kullanılarak Uçucu Organik Bileşiklerin Giderilmesi ve Fotovoltaiik Uygulamalarının İncelenmesi (Proje No: 2020-SİÜFEB-019), 2020 - 2021

Kutluay S., Project Supported by Higher Education Institutions, Yanıt Yüzey Metodu Kullanılarak Biyokütle Kaynaklı Kenevirinden (*Cannabis sativa* L.) Üretilen Aktif Karbonun Gaz Adsorpsiyonu ve Fotovoltaiik Uygulamaları (Proje No: 2020-SİÜMÜH-002), 2020 - 2021

Kutluay S., Project Supported by Higher Education Institutions, Bittımdan Mikrodalga Ortamında Sentezlenen Aktif Karbon Kullanılarak Manyetik Aktif Karbon-CoFe<sub>2</sub>O<sub>4</sub> Sentezlenmesi ve Uygulamaları (Proje No: 2020-SİÜEĞT-004), 2020 - 2021

Ece M. Ş., Şahin Ö., Kutluay S., Project Supported by Higher Education Institutions, Nanoboyutlu Silika Kaplı Manyetitlerin ve Bunların Metal Bileşiklerinin Sentezlenmesi ve Güneş Pilleri, Hidrojen Üretimi, Fotokataliz, Hidrojenasyon Reaksiyonları ve Gaz Adsorpsiyonunda Kullanımının Araştırılması (Proje No: MAÜ.BAP.18.SHMYO.030), 2018 - 2021

Baytar O., Kutluay S., Project Supported by Higher Education Institutions, Yer Fıstığı Kabuğundan Aktif Karbon Üretilmesi ve Potasyum Borhidrür Hidrolizinde Kullanılan İkili Metal Bor Katalizörleri için Destek Malzemesi Olarak Kullanılması (Proje No: 2021-SİÜMÜH-12), 2018 - 2020

Şahin Ö., Kutluay S., Project Supported by Other Official Institutions, Sülfürik Asitle Kolemanitten Borik Asit ve Tinkalden Boraks Pentahidrat Üretiminde Kristalizasyon Prosesinin İncelenmesi (ETİ MADEN İŞLETMELERİ GENEL MÜDÜRLÜĞÜ, 400.02[TGD.2014/3]), 2014 - 2016

Akgün M., Kıpçak E., Kutluay S., Aynacı F., TUBITAK Project, Zeytin Karasuyundan Hidrojen ve Biyoyakıt Üretimi (Proje No: 108M546), 2009 - 2012

## Patent

Şahin Ö., Kutluay S., Bor Ürünleri Kristallerinin Partikül Boyut Dağılımı ve Habitinin İyileştirilmesi, Patent, CHAPTER C Chemistry; Metallurgy, The Invention Registration Number: TR 2019 130 56 B , Standard Registration, 2022

## Tasks In Event Organizations

Şahin Ö., Gürmen S., Kumral M., Saygılı G., Derin C. B., Sönmez M. Ş., Kutluay S., Uluslararası Bor Sempozyumu BORON 2022, Scientific Congress, İstanbul, Turkey, Ekim 2022

Kutluay S., 3rd International Conference on Applications in Chemistry and Chemical Engineering (ICACCHE-2019), Scientific Congress, Skopje, Macedonia, Eylül 2019

Kutluay S., 2nd International Conference on Application in Chemistry and Chemical Engineering (ICACCHE-2018) , Scientific Congress, Belgrade, Serbia, Ekim 2018

Kutluay S., International Conference on Application in Chemistry and Chemical Engineering (ICACCHE-2017), Scientific Congress, Sarajevo, Bosnia And Herzegovina, Ekim 2017

## Metrics

Publication: 70

Citation (WoS): 569

Citation (Scopus): 671

H-Index (WoS): 15

H-Index (Scopus): 16

## **Awards**

Ece M. Ş., Kutluay S., INTERNATIONAL BEST RESEARCHER AWARD, International Society For Scientific Network Awards, World Research Council & Times Of Research, August 2022