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Research Areas

Environmental Engineering

Academic Titles / Tasks

Assistant Professor, Yildiz Technical University, Faculty Of Civil Engineering, Department Of Environmental Engineering, 2023 - Continues

Courses

Life Cycle Assessment, Doctorate, 2023 - 2024

Bilgisayar Destekli Teknik Resim, Undergraduate, 2020 - 2021

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Comparative modeling and assessment of renewable hydrogen production and utilization in remote communities**
AYDIN M. İ., DİNCER İ.
Computers and Chemical Engineering, vol.194, 2025 (SCI-Expanded)
- II. **Development of a UV-based photocatalytic electro dialysis reactor for ion separation and humic acid removal**
AYDIN M. İ., SELÇUK H.
International Journal of Environmental Science and Technology, vol.20, no.6, pp.5913-5924, 2023 (SCI-Expanded)
- III. **New paradigms in sustainable energy systems with hydrogen**
DİNCER İ., AYDIN M. İ.
Energy Conversion and Management, vol.283, 2023 (SCI-Expanded)
- IV. **A life cycle impact analysis of various hydrogen production methods for public transportation sector**
AYDIN M. İ., Dincer İ.
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.47, no.93, pp.39666-39677, 2022 (SCI-Expanded)

- V. **A photoelectrochemical reactor for ion separation and hydrogen production**
AYDIN M. İ., SELÇUK H., Dincer I.
ENERGY, vol.256, 2022 (SCI-Expanded)
- VI. **Optimal performance of electro dialysis process for the recovery of acid wastes in wastewater: Practicing circular economy in aluminum finishing industry**
YÜZER B., AYDIN M. İ., Yildiz H., Hasançebi B., SELÇUK H., Kadmi Y.
Chemical Engineering Journal, vol.434, 2022 (SCI-Expanded)
- VII. **An assessment study on various clean hydrogen production methods**
Aydin M. İ., Dincer I.
ENERGY, vol.245, 2022 (SCI-Expanded)
- VIII. **Photocatalytic, self-cleaning and antibacterial properties of Cu(II) doped TiO₂**
YÜZER B., AYDIN M. İ., Çon A. H., Inan H., Can S., SELÇUK H., Kadmi Y.
Journal of Environmental Management, vol.302, 2022 (SCI-Expanded)
- IX. **Desalination and detoxification of textile wastewater by novel photocatalytic electrolysis membrane reactor for ecosafe hydroponic farming**
AYDIN M. İ., Ozaktac D., YÜZER B., Doğu M., Inan H., Okten H. E., Coskun S., SELÇUK H.
Membranes, vol.12, no.1, 2022 (SCI-Expanded)
- X. **Development of Oshawa hydrogen hub in Canada: A case study**
AYDIN M. İ., DİNCER İ., Ha H.
International Journal of Hydrogen Energy, vol.46, no.47, pp.23997-24010, 2021 (SCI-Expanded)
- XI. **A comparative review on clean hydrogen production from wastewaters**
AYDIN M. İ., Karaca A. E., Qureshy A. M. M. I., Dincer I.
JOURNAL OF ENVIRONMENTAL MANAGEMENT, vol.279, 2021 (SCI-Expanded)
- XII. **Application of electro dialysis membrane process to recovery sulfuric acid and wastewater in the chalcopyrite mining industry**
AYDIN M. İ., YÜZER B., Hasancebi B., SELÇUK H.
Desalination and Water Treatment, vol.172, pp.206-211, 2019 (SCI-Expanded)
- XIII. **Desalination and fate of nutrient transport in domestic wastewater using electro dialysis membrane process**
Nur H. M., YÜZER B., AYDIN M. İ., AYDIN S., ÖNGEN A., SELÇUK H.
Desalination and Water Treatment, vol.172, pp.323-329, 2019 (SCI-Expanded)
- XIV. **Combinations of two-phase anaerobic biological treatment process with for treatment of industrial dye manufacturing wastewater**
ATEŞ A. E., YÜZER B., AYDIN M. İ., Oktem Y., SELÇUK H.
Desalination and Water Treatment, vol.172, pp.125-132, 2019 (SCI-Expanded)
- XV. **Application of an electro dialysis process to recover nitric acid from aluminum finishing industry waste**
YÜZER B., AYDIN M. İ., Hasançebi B., SELÇUK H.
Desalination and Water Treatment, vol.172, pp.199-205, 2019 (SCI-Expanded)
- XVI. **Chloride or sulfate? Consequences for ozonation of textile wastewater**
Oktem Y. A., YÜZER B., AYDIN M. İ., Okten H. E., Meric S., SELÇUK H.
Journal of Environmental Management, vol.247, pp.749-755, 2019 (SCI-Expanded)
- XVII. **Comparison of ozonation and coagulation decolorization methods in real textile wastewater**
AYDIN M. İ., YÜZER B., ÖNGEN A., Okten H., SELÇUK H.
Desalination and Water Treatment, vol.103, pp.55-64, 2018 (SCI-Expanded)
- XVIII. **A multifaceted aggregation and toxicity assessment study of sol-gel-based TiO₂ nanoparticles during textile wastewater treatment**
YÜZER B., Guida M., Ciner F., Aktan B., AYDIN M. İ., Meric S., SELÇUK H.
Desalination and Water Treatment, vol.57, no.11, pp.4966-4973, 2016 (SCI-Expanded)
- XIX. **Functionalization of cotton fabric with nanosized TiO₂ coating for self-cleaning and antibacterial property enhancement**

- Doganli G., YÜZER B., AYDIN M. İ., Gultekin T., Çon A. H., SELÇUK H., Palamutcu S.
Journal of Coatings Technology and Research, vol.13, no.2, pp.257-265, 2016 (SCI-Expanded)
- XX. **Reuse of the treated textile wastewater and membrane brine in the wet textile processes: distorting effects on the cotton fabric**
YÜZER B., AYDIN M. İ., Bulut F. B., Palamutcu S., Emer U., Bekbolet M., Pak S., SELÇUK H.
Desalination and Water Treatment, vol.56, no.4, pp.997-1009, 2015 (SCI-Expanded)
- XXI. **An experimental study on manganese(II) removal with manganese dioxide recycling**
Ormanci T., TÜRKÖĞLU DEMİRKOL G., AYDIN M. İ., TÜFEKÇİ N.
Desalination and Water Treatment, vol.51, no.10-12, pp.2225-2230, 2013 (SCI-Expanded)

Books

- I. **Ion-exchange membranes in electrolysis process**
Yüzer B., Aydın M. İ., Özaktaç D., Demir M. E., Biçer Y.
in: Current Trends and Future Developments on (Bio-) Membranes, Angelo Basile, Kamran Ghasemzadeh, Editor,
Elsevier Science, Oxford/Amsterdam , Amsterdam, pp.265-298, 2024
- II. **Ammonia Energy Technologies**
DİNCER İ., ERDEMİR D., AYDIN M. İ., KARASU H., VEZİNA G.
Springer, CHAM, 2023
- III. **Ammonia Energy Technologies**
DİNCER İ., ERDEMİR D., AYDIN M. İ., Karasu H., Vezina G.
Springer Nature, Oshawa, 2023
- IV. **2nd International Conference on Recycling and Reuse: Book of Abstracts**
Bekbölet F. M. (Editor), Selçuk H. (Editor), Kavurmacı S. Ş. (Editor), Aydın M. İ. (Editor), Yüzer B. (Editor), Yiğit Hunce S. (Editor)
Bogazici University Press , İstanbul, 2014
- V. **International Conference on Recycling and Reuse: Book of Abstracts**
Öngen A. (Editor), Yüzer B. (Editor), Aydın M. İ. (Editor)
Boğaziçi Yayınları, İstanbul, 2012

Refereed Congress / Symposium Publications in Proceedings

- I. **An Electrolyser Design for Membraneless Electrolysis by Using 3D Printing**
AYDIN M. İ., DİNCER İ.
The 14th International Conference on Hydrogen Production, Doha, Qatar, 19 - 21 December 2023, pp.54-55
- II. **Water Footprint of Renewable Hydrogen Production Technologies**
AYDIN M. İ., DİNCER İ.
13th International Conference on Hydrogen Production, Pakistan, 11 December 2022
- III. **Life Cycle Impact Analysis of Various Hydrogen Production Methods for Public Transportation Sector**
AYDIN M. İ., DİNCER İ.
6th International Hydrogen Technologies Congress, Çanakkale, Turkey, 23 January 2022, pp.253-255
- IV. **A Photoelectrochemical Reactor for Ion Separation and Hydrogen Production**
AYDIN M. İ., SELÇUK H., DİNCER İ.
TUBA World Conference on Energy Science and Technology, İstanbul, Turkey, 8 - 12 August 2021, pp.237-235
- V. **The Treatment of Dye Industry Wastewater by Solar Photo-Fenton Effect of Residual Hydrogen Peroxide on COD :a Laboratory scale study**
ATEŞ A. E., AYDIN M. İ., SELÇUK H.
International Natural Science, Engineering and Material Technologies Conference, İstanbul, Turkey, 09 September

2019

- VI. **Comparison of Treatment Efficiency of Dye Production Industry Wastewater by Fenton, Post-Fenton and Photo-Fenton Method**
AYDIN M. İ., ATEŞ A. E., SELÇUK H.
International Natural Science, Engineering and Material Technologies Conference, İstanbul, Turkey, 09 September 2019
- VII. **Replacing Chloride in Textile Dyeing and the Synergistic Effects on a Hybrid Wastewater Treatment System**
AYDIN M. İ., ATEŞ A. E., YÜZER B., ÖKTEM Y. A., ÖKTEN H. E., SELÇUK H.
4th International Conference on Recycling and Reuse, İstanbul, Turkey, 09 September 2019
- VIII. **Ecosafefarming By Solar Treatment and Desalination by Biologically Treated Brackish Wastewater**
ÖZAKTAÇ D., ATEŞ A. E., AYDIN M. İ., YÜZER B., SELÇUK H.
1st International Conference on Environment, Technology and Management, Niğde, Turkey, 27 June 2019
- IX. **Car Wash Industry in Turkey: Decrease Water Pollution by Wastewater Reuse**
AYDIN M. İ., YÜZER B., SELÇUK H.
1st International Conference on Environment, Technology and Management, Niğde, Turkey, 27 June 2019
- X. **Evaluation of Hydrogen Production in Electrodialysis Process Treating Industrial Saline Wastewater**
YÜZER B., AYDIN M. İ., SELÇUK H., CHEHADE G., DİNCER İ.
4th International Hydrogen Technologies Congress, Edirne, Turkey, 20 June 2019
- XI. **Micropollutant Removal from a Secondary Treated Municipal Wastewater by Electrodialysis**
H M N, YÜZER B., AYDIN M. İ., AYDIN S., ÖNGEN A., SELÇUK H.
4th International Conference on Recycling and Reuse, İstanbul, Turkey, 24 October 2018
- XII. **Decolorization and Detoxification of Textile Wastewater by Innovative and Cost Effective Ion-Exchange Process**
RAPTI A., AYDIN M. İ., YÜZER B., SELÇUK H.
4th International Conference on Recycling and Reuse, İstanbul, Turkey, 24 October 2018
- XIII. **Decreasing Toxicity and Increasing Biodegradability of Dye Production Industrial Wastewater by Pre-Ozonation and Fenton Oxidation Cost-Benefit Analysis of Wastewater Reuse System in a Circular Economy Perspective**
DENİZLER A. E., AYDIN M. İ., ÖKTEM Y. A., APAYDIN Ö., SELÇUK H., KOÇDAĞ E.
International Conference on Recycling and Reuse, İstanbul, Turkey, 24 - 26 October 2018, vol.1
- XIV. **Tackling Toxicity İn Ozonated Textile Wastewater For Enhanced Biological Treatment**
ÖKTEM Y. A., YÜZER B., AYDIN M. İ., ÖKTEN H. E., MERİÇ PAGANO S., SELÇUK H.
5th European Conference on Environmental Applications of Advanced Oxidation Processes, Prag, Czech Republic, 25 - 29 June 2017
- XV. **Recovery of Biologically Treated Textile Wastewater by Ozonation and Subsequent Electrodialysis Membrane Desalination System**
Emrah E. T., YÜZER B., AYDIN M. İ., ÖKTEN H. E., MERİÇ PAGANO S., SELÇUK H.
5th European Conference on Environmental Applications of Advanced Oxidation Processes, Prag, Czech Republic, 25 - 29 June 2017
- XVI. **Pilot scale Application of Ion Exchange and Nanofiltration Membrane Processes for Zero Waste Approach in Aluminum Industry**
AYDIN M. İ., YÜZER B., YILDIZ H., ERDEM B., SELÇUK H.
3rd International Conference on Recycling and Reuse, İstanbul, Turkey, 28 - 30 September 2016, vol.1, pp.178
- XVII. **Color Removal and Detoxification of Textile Wastewater by Using Polymer Based Coagulation and Ozonation Processes**
YÜZER B., AYDIN M. İ., MERİÇ PAGANO S., SELÇUK H.
3rd International Conference on Recycling and Reuse, 28 - 30 September 2016, vol.1, pp.180
- XVIII. **Investigation Design and Cost Analysis of Efficient Reverse Osmosis System RO for the Marmara Sea Water**
YÜZER B., AYDIN M. İ., SELÇUK H.

- 3rd International Conference on Recycling and Reuse, İstanbul, Turkey, 28 - 30 September 2016, vol.1, pp.312
- XXIX. **Copper Doping on TiO₂ Nanoparticles for Development of Self Cleaning and Anti Bacterial Cotton Fabric**
AYDIN M. İ., YÜZER B., SELÇUK H.
Smart and Green Interfaces, 4 - 06 May 2016
- XX. **Color Removal from Biologically Treated Textile Wastewater and Cost Analysis**
AYDIN M. İ., YÜZER B., YURDAKUL B., ÖNGEN A., SELÇUK H.
4th European Conference on Environmental Applications of Advanced Oxidation Processes, ATİNA, Greece, 21 - 24 October 2015, vol.1, pp.84
- XXI. **Caustic Recovery In Textile Industry By Using Nanofiltration And Evaporation Processes**
YÜZER B., KURŞUNCU İ., AYDIN M. İ., SELÇUK H.
2nd International Conference On Recycling And Reuse, 4 - 06 June 2014, pp.317
- XXII. **Acid Recovery from Aluminium Anodizing Process via Ion Change Resin**
AYDIN M. İ., YÜZER B., ÖNGEN A., YILDIZ H., BEKBÖLET F. M., SELÇUK H.
2nd International Conference On Recycling And Reuse, 4 - 06 June 2014, vol.1, pp.319
- XXIII. **Application of Nanofiltration Membrane Process for Recovery and Reuse of Salt in the Segregated Reactive Dyeing Wastewater**
YÜZER B., YURDAKUL B., AYDIN M. İ., ÖNGEN A., SELÇUK H.
2nd International Conference on Recycling and Reuse, 4 - 06 June 2014, vol.1, pp.185-186
- XXIV. **Biochemical Methane Potential Of Membrane Concentrates A Case Study Of Textile Wastewaters**
AYDIN M. İ., YAMAN F. B., ELCİK H., KARADAĞ D., ÇAKMAKCI M., ÖZKAYA B.
International Conference on Recycling and Reuse, R&R 2012, Turkey, 1 - 04 June 2012
- XXV. **Sulfate Removal from Textile Wastewaters and Biochemical Methane Potential of Treated Wastewater**
AYDIN M. İ., ELCİK H., YAMAN F. B., KARADAĞ D., ÇAKMAKCI M., ÖZKAYA B.
International Conference on Recycling and Reuse, İstanbul, Turkey, 04 June 2012
- XXVI. **Biochemical Methane Potential Of Membrane Concentrates: A Case Study Of Textile Wastewaters**
AYDIN M. İ., ELCİK H., YAMAN F. B., KARADAĞ D., ÇAKMAKCI M., ÖZKAYA B.
International Conference on Recycling and Reuse, İstanbul, Turkey, 4 - 06 June 2012
- XXVII. **Fate, Transport and Treatment of TiO₂ Nano Particles in the Textile Wastewater**
Aktan B., Türkoğlu Demirkol G., Yüzer B., Ormanci Acar T., Aydın M. İ., Selçuk H.
Third International Conference on Environmental Management, Engineering, Planning and Economics (CEMEPE 2011) & SECOTOX Conference, Athens, Greece, 1 - 06 June 2011, pp.300

Supported Projects

KANTÜRK FİGEN A., Ülgen B. E., AYDIN M. İ., COŞKUNER FİLİZ B., TAŞ Z., Project Supported by Higher Education Institutions, Atık suların boyar maddelerin ve ağır metallerin eş zamanlı uzaklaştırılması için manyetik aktif karbon sentezi, performans analizi ve yaşam döngüsü değerlendirmesi, 2024 - Continues

AYDIN M. İ., BAYRAKDAR ATEŞ E., SORGULU F., Project Supported by Higher Education Institutions, Kaolin Türünün ve Termokimyasal Ön İşlem Parametrelerinin Kaolinin Gaz Adsorpsiyonuna Etkisinin Araştırılması, 2024 - Continues

GÜRSU H., YABAN M., ŞAHİN Y., AYDIN M. İ., SORGULU F., Project Supported by Higher Education Institutions, Geçiş Metali Esaslı Yeni Nesil Elektrokatalizörlerin Geliştirilmesi ve Hidrojen Üretim Verimliliği Üzerine Etkisinin Araştırılması, 2024 - Continues

KANTÜRK FİGEN A., AYDIN M. İ., COŞKUNER FİLİZ B., Yıldırım B., Project Supported by Higher Education Institutions, Bor Katkılı Perovskit Tipi Elektrokatalizörlerin Sentezi ve Fotoelektrokimyasal Reaktörde Hidrojen Üretimi, 2024 - Continues

DİNCER İ., JAVANI N., GENÇELİ H., KANTÜRK FİGEN A., SORGULU F., ÖZTÜRK M., AKGÜN İ., ERDEMİR D., AYDIN M. İ., GÜRSU H., Project Supported by Higher Education Institutions, Yeşil Hidrojen Üretim Sisteminin Geliştirilmesi ve Kurulması, 2024 - Continues

Dincer İ., Sorgulu F., Özdemir O. K., Aydın M. İ., Öztürk M., Project Supported by Other Private Institutions, Hydrogen

Energy: Fundamentals, Systems and Applications (Supported by: EPIAŞ), 2023 - 2023

Diñer İ., Aydın M. İ., Erdemir D., Karasu H., Other International Funding Programs, Sectoral Use of Ammonia as a Clean Solution, 2020 - 2022

Diñer İ., Aydın M. İ., Other International Funding Programs, A Feasibility Study on the Development of Oshawa Hydrogen Economy Hub, 2020 - 2021

Selçuk H., Aydın M. İ., Yüzer B., Aydın S., Öngen A., Meriç Pagano S., Ökten H. E., EU Supported Other Project, DEVELOPMENT AND TESTING OF A NOVEL PHOTOCATALYTIC SYSTEM FOR EFFICIENT COGENERATION OF CLEAN WATER AND HYDROGEN FOR ECOSAFE AGRICULTURE "ECOSAFEFARMING, 2017 - 2021

Selçuk H., Öngen A., Nemliođlu S., Aydın M. İ., Yüzer B., Energy and Natural Resources Ministry, İstanbul DGKÇ Santrali-A Üniteleri İçin Uygun Deniz Suyu Entegre Memran Arıtma Sisteminin Araştırılması ve Projelendirilmesi, 2016 - 2019

Selçuk H., Aydın M. İ., Yüzer B., Project Supported by Other Official Institutions, Soğutma Suyu Pompa Eleklelerinin Deniz Suyundan Kaynaklanan Tıkanmalarının Etüt Edilmesi, Gerekli Analizlerin Yapılması ve Raporlanması, 2017 - 2017

Mobility Activity

Post Doc, Post Doc, Ontario Tech University, Canada, 2019 - 2021

Metrics

Publication: 54

Citation (WoS): 482

Citation (Scopus): 597

H-Index (WoS): 10

H-Index (Scopus): 11

Scholarships

2219 - Yurt Dışı Doktora Sonrası Araştırma Burs Programı, TÜBİTAK, 2019 - 2021