

Assoc. Prof. ÖZGE YÜKSEL ORHAN

Personal Information

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International Researcher IDs

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Education Information

Doctorate, Hacettepe University, Mühendislik Fakültesi, Kimya Mühendisliği, Turkey 2010 - 2015

Postgraduate, Hacettepe University, Mühendislik Fakültesi, Kimya Mühendisliği, Turkey 2007 - 2010

Undergraduate, Hacettepe University, Mühendislik Fakültesi, Kimya Mühendisliği, Turkey 2003 - 2007

Foreign Languages

German, B1 Intermediate

English, C1 Advanced

Dissertations

Doctorate, Karbon dioksit gazının iyonik sıvı- CO₂ tutan organik sıvı hibrit çözüclere absorpsiyonunun kinetiği,
Hacettepe Üniversitesi, Mühendislik Fakültesi, Kimya Mühendisliği Bölümü, 2015

Research Areas

Chemical Engineering and Technology, Process and Reactor Design, Chemical Reaction Engineering, Engineering and Technology

Academic Titles / Tasks

Research Assistant, Hacettepe University, Mühendislik Fakültesi, Kimya Mühendisliği Bölümü, 2009 - Continues

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Response Surface Optimization of Nonaqueous Hexanol-Based Trisolvent Amine Blends for Energy-Efficient CO₂ Desorption**
Hugul A. E., Ulus N., YÜKSEL ORHAN Ö., YAVUZ ERSAN H.
Energy Technology, 2024 (SCI-Expanded)
- II. **Modeling and Optimizing N/O-Enriched Bio-Derived Adsorbents for CO₂ Capture: Machine Learning**

and DFT Calculation Approaches

Rahimi M., Abbaspour-Fard M. H., Rohani A., YÜKSEL ORHAN Ö., Li X.

INDUSTRIAL & ENGINEERING CHEMISTRY RESEARCH, vol.61, no.30, pp.10670-10688, 2022 (SCI-Expanded)

- III. **Reduced energy consumption and enhanced CO₂ desorption performance of non-aqueous ionic-liquid-containing amine blends with zeolites**

Ulus N., Yüksel Orhan Ö.

JOURNAL OF MOLECULAR LIQUIDS, vol.359, 2022 (SCI-Expanded)

- IV. **Optimization of novel nonaqueous hexanol-based monoethanolamine/methyl diethanolamine solvent for CO₂ absorption**

Ulus N., Ali S. A. S., Khalifa O., YÜKSEL ORHAN Ö., Elkamel A.

INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.46, no.7, pp.9000-9019, 2022 (SCI-Expanded)

- V. **Effects of various anions and cations in ionic liquids on CO₂ capture**

YÜKSEL ORHAN Ö.

JOURNAL OF MOLECULAR LIQUIDS, vol.333, 2021 (SCI-Expanded)

- VI. **Effect of non-aqueous solvents on kinetics of carbon dioxide absorption by (Bu₃P)-Bu-t/B(C₆F₅) (3) frustrated Lewis pairs**

Cihan N., YÜKSEL ORHAN Ö., YAVUZ ERSAN H.

SEPARATION AND PURIFICATION TECHNOLOGY, vol.258, 2021 (SCI-Expanded)

- VII. **The development of reaction kinetics for CO₂ absorption into novel solvent Frustrated Lewis (FLPs)**

Yüksel Orhan Ö., Cihan N., Şahin V., Karabakan A., Alper E.

SEPARATION AND PURIFICATION TECHNOLOGY, vol.252, 2020 (SCI-Expanded)

- VIII. **The enhanced enzymatic performance of carbonic anhydrase on the reaction rate between CO₂ and aqueous solutions of sterically hindered amines**

Cihan N., YÜKSEL ORHAN Ö.

GREENHOUSE GASES-SCIENCE AND TECHNOLOGY, vol.10, no.5, pp.925-937, 2020 (SCI-Expanded)

- IX. **Kinetics and mechanism of reaction between carbon disulfide and novel aqueous amines solutions**

YÜKSEL ORHAN Ö., Cihan F. N., Alper E.

INTERNATIONAL JOURNAL OF GLOBAL WARMING, vol.18, no.3-4, pp.401-409, 2019 (SCI-Expanded)

- X. **Kinetics of reaction between CO₂ and ionic liquid-carbon dioxide binding organic liquid hybrid systems: Analysis of gas-liquid absorption and stopped flow experiments**

YÜKSEL ORHAN Ö., Alper E.

CHEMICAL ENGINEERING SCIENCE, vol.170, pp.36-47, 2017 (SCI-Expanded)

- XI. **Innovative Carbon Dioxide-Capturing Organic Solvent: Reaction Mechanism and Kinetics**

YÜKSEL ORHAN Ö., Tankal H., KAYI H., Alper E.

CHEMICAL ENGINEERING & TECHNOLOGY, vol.40, no.4, pp.737-744, 2017 (SCI-Expanded)

- XII. **The Absorption Kinetics of CO₂ into Ionic Liquid-CO₂ Binding Organic Liquid and Hybrid Solvents**

YÜKSEL ORHAN Ö., Ume C. S., Alper E.

ENERGY EFFICIENT SOLVENTS FOR CO₂ CAPTURE BY GAS-LIQUID ABSORPTION: COMPOUNDS, BLENDS AND ADVANCED SOLVENT SYSTEMS, pp.241-261, 2017 (SCI-Expanded)

- XIII. **Kinetics of CO₂ capture by carbon dioxide binding organic liquids: Experimental and molecular modelling studies**

Orhan O. Y., Tankal H., Kayi H., ALPER E.

INTERNATIONAL JOURNAL OF GREENHOUSE GAS CONTROL, vol.49, pp.379-386, 2016 (SCI-Expanded)

- XIV. **Experimental and theoretical investigation of the reaction between CO₂ and carbon dioxide binding organic liquids**

Tankal H., YÜKSEL ORHAN Ö., Alper E., ÖZDOĞAN T., KAYI H.

TURKISH JOURNAL OF CHEMISTRY, vol.40, no.5, pp.706-719, 2016 (SCI-Expanded)

- XV. **Kinetics of CO₂ Capture by Carbon Dioxide Binding Organic Liquids**

YÜKSEL ORHAN Ö., KAYI H., Alper E.

ENERGY, TRANSPORTATION AND GLOBAL WARMING, pp.591-603, 2016 (SCI-Expanded)

- XVI. **Kinetics of Carbon Dioxide Binding by Promoted Organic Liquids**

- Orhan O. Y., ALPER E.
CHEMICAL ENGINEERING & TECHNOLOGY, vol.38, no.8, pp.1485-1489, 2015 (SCI-Expanded)
- XVII. **Kinetics and performance studies of a switchable solvent TMG (1,1,3,3-tetramethylguanidine)/1-propanol/carbon dioxide system**
YÜKSEL ORHAN Ö., Ozturk M. C., Seker A., Alper E.
TURKISH JOURNAL OF CHEMISTRY, vol.39, no.1, pp.13-24, 2015 (SCI-Expanded)
- XVIII. **Kinetics of carbon dioxide binding by 1,1,3,3-tetramethylguanidine in 1-hexanol**
Ozturk M. C., YÜKSEL ORHAN Ö., Alper E.
INTERNATIONAL JOURNAL OF GREENHOUSE GAS CONTROL, vol.26, pp.76-82, 2014 (SCI-Expanded)

Articles Published in Other Journals

- I. **CO₂ utilization: Developments in conversion processes**
Alper E., YÜKSEL ORHAN Ö.
Petroleum, vol.3, no.1, pp.109-126, 2017 (Scopus)

Refereed Congress / Symposium Publications in Proceedings

- I. **Kinetics of carbon dioxide absorption by nonaqueous solutions of promoted sterically hindered amines**
Gordesli Duatepe F. P., YÜKSEL ORHAN Ö., Alper E.
13th International Conference on Greenhouse Gas Control Technologies (GHGT), Lausanne, Switzerland, 14 - 18 November 2016, vol.114, pp.57-65

Supported Projects

- YÜKSEL ORHAN Ö., Cihan F. N., Project Supported by Higher Education Institutions, Sterik Engelli Aminlerin Sulu Çözeltilerine Karbondioksit Absorpsiyon Hızının Enzimatik Arttırılması, 2018 - 2021
- YÜKSEL ORHAN Ö., KOÇUM İ. C., TANYOLAÇ D., Project Supported by Higher Education Institutions, BİR OZON JENERATÖRÜ, 2016 - 2021
- YÜKSEL ORHAN Ö., Project Supported by Higher Education Institutions, "CO₂ hidrojenasyonu için seçici katalitik süreçlerin modellenmesi", 2017 - 2018
- YÜKSEL ORHAN Ö., ALPER E., Project Supported by Higher Education Institutions, CO₂ ile iyonik sıvı-karbon dioksit tutan organik sıvı hibrid sistemler arasındaki reaksiyon kinetiği, 2017 - 2017
- YÜKSEL ORHAN Ö., Project Supported by Higher Education Institutions, Petrokimya Tesislerinde Proses Atığı CO₂'den Yararlanma, 2017 - 2017
- YÜKSEL ORHAN Ö., ALPER E., Project Supported by Higher Education Institutions, Yeni geliştirilen karbon dioksit tutan organik sıvıların absorpsiyon ve ultrasonik desorpsiyon performanslarının incelenmesi, 2016 - 2017
- TUBITAK Project, Karbon dioksit yakalayan organik sıvıların reaksiyon kinetiği ve mekanizmasının deneysel ve moleküler modelleme yöntemleriyle incelenmesi, 2014 - 2016
- YÜKSEL ORHAN Ö., ALPER E., KAYI H., Project Supported by Higher Education Institutions, Karbon Dioksit Gazının CO₂ Tutan Organik Sivilara Absorpsiyonunun Kinetiği, 2015 - 2015

Metrics

- Publication: 20
Citation (WoS): 92
Citation (Scopus): 591

H-Index (WoS): 6

H-Index (Scopus): 9

Non Academic Experience

Ghent Üniversitesi

Ruhr Üniversitesi