Dr.Öğr.Üyesi MESUDE AVCI

Kişisel Bilgiler

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Eğitim Bilgileri

Doktora, University of Oklahoma, Amerika Birleşik Devletleri 2010 - 2015
Yüksek Lisans, Rice University, Amerika Birleşik Devletleri 2008 - 2010
Lisans, İnönü Üniversitesi, Mühendislik Fakültesi, Kimya Mühendisliği Bölümü, Türkiye 2002 - 2006

Yaptığı Tezler

Doktora, Computational Investiation of Turbulent Blood Flow and Hemolysis in Biomedical Devices, University Of Oklahoma, 2015
Yüksek Lisans, Modeling Vapor-Liquid-Solid Phase Behavior in Natural Gas Systems, Rice University, 2010

Araştırma Alanları

Biyomedikal Mühendisliği, Kimya Mühendisliği ve Teknolojisi

Akademik Unvanlar / Görevler

Dr.Öğr.Üyesi, Sivas Cumhuriyet Üniversitesi, Mühendislik Fakültesi, Kimya Mühendisliği, 2019 - Devam Ediyor
Öğretim Görevlisi, Sivas Cumhuriyet Üniversitesi, Mühendislik Fakültesi, Kimya Mühendisliği Bölümü, 2018 - 2019

Verdiği Dersler

Kim. Müh. Lab. - I, Lisans, 2019 - 2020
Kimyasal Teknoloji Laboratuvarı, Lisans, 2019 - 2020
Malzeme, Lisans, 2019 - 2020

SCI, SSCI ve AHCI İndekslerine Giren Dergilerde Yayınlanan Makaleler

I. **Hemolysis estimation in turbulent flow for the FDA critical path initiative centrifugal blood pump**
AVCI M., Heck M., O'Rear E. A., Papavassiliou D. V.

BIOMECHANICS AND MODELING IN MECHANOBIOLOGY, cilt.20, sa.5, ss.1709-1722, 2021 (SCI-Expanded)

II. **Modeling natural gas-carbon dioxide system for solid-liquid-vapor phase behavior**
AVCI M., Panuganti S. R., Gong K., Cox K. R., Vargas F. M., Chapman W. G.
Journal of Natural Gas Science and Engineering, cilt.45, ss.738-746, 2017 (SCI-Expanded)

III. **An Approach for Assessing Turbulent Flow Damage to Blood in Medical Devices**
AVCI M., Papavassiliou D. V., O'Rear E. A.
Journal of Biomechanical Engineering, cilt.139, sa.1, 2017 (SCI-Expanded)

IV. **Hemolysis Related to Turbulent Eddy Size Distributions Using Comparisons of Experiments to Computations**
AVCI M., O'Rear E. A., Papavassiliou D. V.
Artificial Organs, cilt.39, sa.12, 2015 (SCI-Expanded)

V. **Hemodynamics of the renal artery ostia with implications for their structural development and efficiency of flow**
Mcintosh W. H., AVCI M., Down L. A., Papavassiliou D. V., O'Rear E. A.
Biorheology, cilt.52, sa.4, ss.257-268, 2015 (SCI-Expanded)

VI. **Studies of methyldiethanolamine process simulation and parameters optimization for high-sulfur gas sweetening**
Qiu K., Shang J., AVCI M., Li T., Chen S., Zhang L., Gu X.
Journal of Natural Gas Science and Engineering, cilt.21, ss.379-385, 2014 (SCI-Expanded)

VII. **A simulation study on the impact of operating conditions on desulphurisation selectivity in high-sulphur gas sweetening**
Qiu K., Zhu L., Bagajewicz M., Kim S. Y., AVCI M.
International Journal of Oil, Gas and Coal Technology, cilt.6, sa.3, ss.348-366, 2013 (SCI-Expanded)

Diğer Dergilerde Yayınlanan Makaleler

I. **Sublethal Damage to Erythrocytes during Blood Flow**
AVCI M., O'rear E. A., Foster K. M., Papavassiliou D. V.
Fluids, cilt.7, sa.2, 2022 (ESCI)

II. **Reynolds stresses and hemolysis in turbulent flow examined by threshold analysis**
AVCI M., O'Rear E. A., Papavassiliou D. V.
Fluids, cilt.1, sa.4, 2016 (Scopus)

Kitap & Kitap Bölümleri

I. **Metabolomics in Biomarker Identification for Cardiovascular Diseases**
AVCI M.
Metabolomics and Clinical Approach, Daştan, Sevgi Durna; Daştan, Taner, Editör, Nova science publisher, ss.297-308, 2023

II. **Computational Modeling of Epigenetics**
AVCI M.
Epigenetics: Beyond the Genetics, Daştan, Sevgi Durna; Yurtcu, Nazan, Editör, Nova Science Publishers, New York, ss.95-104, 2022

Hakemli Kongre / Sempozyum Bildiri Kitaplarında Yer Alan Yayınlar

I. **MODELING BLOOD FLOW FOR VARYING DEGREES OF STENOSIS IN VESSELS BY USING COMPUTATIONAL FLUID DYNAMICS (CFD)**

Saraçoğlu Kaya B., Avcı M.
2nd International Congress On Food Researches, ICONFOOD'23, Sivas, Türkiye, 16 - 18 Ekim 2023, ss.314-319

II. **Investigation of Von Willebrand factor and Thrombosis in Medical Devices by using Computational Fluid Dynamics**
ÖZTÜRK M.
1. Uluslararası Malatya Uygulamalı Bilimler Kongresi, 20 - 22 Aralık 2019, cilt.2

III. **Validation of a New Computational Fluid Dynamics Model to Predict Turbulent Flow Damage for the US FDA Critical Path Initiative Centrifugal Blood Pump**
ÖZTÜRK M., O'Rear E. A., Papavassiliou D. V.
The American Institute of Chemical Engineers (AICHE), Orlando, FL, Amerika Birleşik Devletleri, 10 - 15 Kasım 2019

IV. **A Computational Fluid Dynamics Model to Predict Turbulent Flow Damage For The US FDA Critical Path Initiative Centrifugal Blood Pump**
ÖZTÜRK M., O'Rear E. A., Papavassiliou D. V.
31st Anuual Cardiologist Conference, Roma, İtalya, 17 - 19 Eylül 2019, cilt.8

V. **A Computational Fluid Dynamics Model to Predict Turbulent Flow Damage in Medical Devices**
ÖZTÜRK M., O'Rear E. A., Papavassiliou D. V.
The American Institute of Chemical Engineers (AICHE), San-Francisco, Kostarika, 13 - 18 Kasım 2016

VI. **Effects of Turbulent Eddies on Hemolysis in a Centrifugal Blood Pump**
ÖZTÜRK M., O'Rear E. A., HECK M., JAMES M. E., Papavassiliou D. V.
The Biomedical Engineering Society (BMES), Minneapols, MN, Amerika Birleşik Devletleri, 5 - 08 Ekim 2016

VII. **An Empirical Model To Estimate Blood Damage In Turbulent Flow In Medical Devices**
ÖZTÜRK M., O'Rear E. A., Papavassiliou D. V.
The American Society for Artificial Internal Organs (ASAIO), San-Francisco, Kostarika, 15 - 18 Haziran 2016

VIII. **Effect of Reynolds and viscous stress, and Kolmogorov length scale on hemolysis**
ÖZTÜRK M., O'Rear E. A., Papavassiliou D. V.
The American Institute of Chemical Engineers (AICHE), Salt Lake City, UT, Amerika Birleşik Devletleri, 8 - 13 Kasım 2015

IX. **Effect of Reynolds Stresses on Hemolysis**
ÖZTÜRK M., Snyder T., O'Rear E. A., Papavassiliou D. V.
The American Society for Artificial Internal Organs (ASAIO), Chicago, IL, Amerika Birleşik Devletleri, 24 - 27 Haziran 2015

X. **Applicability of Reynolds, Total, Viscous and Wall Shear Stresses in Different Power Law Models.**
ÖZTÜRK M., Snyder T., O'Rear E. A., Papavassiliou D. V.
The American Society for Artificial Internal Organs (ASAIO), Chicago, IL, Amerika Birleşik Devletleri, 24 - 27 Haziran 2015

XI. **Eddy Analysis for Hemolysis in Turbulent Flows**
O'Rear E. A., ÖZTÜRK M., Papavassiliou D. V.
The International Congress of Biorheology - International Conference on Clinical Hemorheology (ISB-ISCH), Seoul, Güney Kore, 24 Mayıs - 28 Haziran 2015

XII. **Turbulence effects on hemolysis by revisiting experiments with LES computations**
ÖZTÜRK M., O'Rear E. A., Papavassiliou D. V.
The American Physical Society (APS), Boston, MA, Amerika Birleşik Devletleri, 2 - 06 Mart 2015

XIII. **Relationship between Turbulent Quantities and Hemolysis**
ÖZTÜRK M., O'Rear E. A., Papavassiliou D. V.
The American Institute of Chemical Engineers (AICHE), Atlanta, GA, Amerika Birleşik Devletleri, 16 - 21 Kasım 2014

XIV. **Turbulent eddy properties from CFD and hemolysis re-examined**
ÖZTÜRK M., O'Rear E. A., Papavassiliou D. V.
The Biomedical Engineering Society (BMES), San-Antonio, Kuzey Mariana Adaları, 22 - 25 Ekim 2014

XV. **Effects of Turbulent Eddy Structures on Hemolysis**
ÖZTÜRK M., Schmidtke D., Snyder T., O'Rear E. A., Papavassiliou D. V.

The American Society for Artificial Internal Organs (ASAIO), Washington, Kiribati, 18 - 21 Haziran 2014

XVI. **Hemolysis in Turbulent Flow**
ÖZTÜRK M., O'Rear E. A., Papavassiliou D. V.
The American Chemical Society Annual Pentasectional Meeting (ACS), Stillwater, OK, Amerika Birleşik Devletleri, 12 - 13 Nisan 2014

XVII. **Simulation of Turbulence Effects on Red Blood Cell Trauma**
ÖZTÜRK M., O'Rear E. A., Papavassiliou D. V.
The American Institute of Chemical Engineers (AICHE), San-Francisco, Kostarika, 3 - 08 Kasım 2013

XVIII. **Gas Pipeline Leak Detection Using Rigorous Hydraulics and Global Optimization.**
ÖZTÜRK M., Kim S. Y., Bagajewicz M.
The American Institute of Chemical Engineers (AICHE), Pittsburgh, PA, Amerika Birleşik Devletleri, 28 Ekim - 02 Kasım 2012

XIX. **New Approach to Gas Hydraulics Calculations**
ÖZTÜRK M., Hacıoğlu L., Bagajewicz M.
The American Institute of Chemical Engineers (AICHE), Pittsburgh, PA, Amerika Birleşik Devletleri, 28 Ekim - 02 Kasım 2012

Desteklenen Projeler

Avcı M., DAŞTAN T., Diğer Uluslararası Fon Programları, Emerging Approaches in Epigenetics, 2022 - 2023
Avcı M., Yükseköğretim Kurumları Destekli Proje, Santrifüjlü Kalp Pompasında Hemoliz Hesaplanması, 2019 - 2020

Metrikler

Yayın: 30
Atıf (WoS): 82
Atıf (Scopus): 107
H-İndeks (WoS): 5
H-İndeks (Scopus): 6

Akademi Dışı Deneyim

İlçe Milli Eğitim Müdürlüğü
The University of Oklahoma
The University of Oklahoma