

ISSN: 2165-3852

Volume 10, Number 1, March 2020



Open Journal of Fluid Dynamics



<https://www.scirp.org/journal/ojfd>

Journal Editorial Board

ISSN: 2165-3852 (print) ISSN: 2165-3860 (online)

<https://www.scirp.org/journal/ojfd>

Editor-in-Chief

Prof. Heuy-Dong Kim

Andong National University, South Korea

Associate Editor

Prof. Mohammad Mehdi Rashidi

Bu-Ali Sina University, Hamedan, Iran

Editorial Board

Prof. Saeid Abbasbandy

Imam Khomeini International University, Iran

Prof. Ramesh K. Agarwal

Washington University in St. Louis, USA

Dr. Wei Bai

Manchester Metropolitan University, UK

Prof. Mostafa Barigou

The University of Birmingham, UK

Prof. Bin Chen

Xi'an Jiaotong University, China

Prof. Juergen Czarske

University of Technology, Germany

Prof. Sandip Ghosal

Northwestern University, USA

Prof. Anup Gokarn

Flow Science Inc., USA

Prof. Russell G. Keanini

University of North Carolina, USA

Prof. M. Masud K. Khan

Central Queensland University, Australia

Dr. Rajan Kumar

Florida State University, USA

Prof. Mario Mlsale

University of Genoa, Italy

Dr. Khaled A. Sallam

Oklahoma State University, USA

Prof. Richard Saurel

Aix-Marseille University, France

Prof. José R. Serrano

Universidad Politécnica de Valencia, Spain

Dr. Bhupendra Kumar Sharma

BITS Pilani, India

Dr. Makoto Umeki

University of Tokyo, Japan

Prof. Hamit Yurtseven

Middle East Technical University, Turkey

Table of Contents

Volume 10 Number 1

March 2020

Displacement of Oil in a Porous Medium on Diphasic Flow by Water Injection

M. S. Mohamed, S. Ndyaye, K. Talla, C. Mbow, A. C. Beye.....1

Developed Numerical Simulation of Falling and Moving Objects in Viscous Fluids under the Action of a Reynolds Lubrication Theory and Low Reynolds Numbers

S. Paul, J. Oppelstrup.....8

Numerical Study of the Lift Force, Velocities and Pressure Distribution of a Single Air Bubble and Two Interacting Air Bubbles Rising in Quiescent Liquid

C. Guan, S. Yanase, K. Matsuura, T. Kouchi, Y. Nagata.....31

Structure and Screech Tone of Radially Underexpanded Jet Emitted by Facing Cylinders

H. Suzuki, K. Kawasaki, M. Endo, Y. Sakakibara.....52

On the Study of Autonomous Underwater Vehicles by Computational Fluid-Dynamics

J. V. N. de Sousa, A. G. B. de Lima, F. A. Batista, E. C. de Souza,

D. C. de Macedo Cavalcante, P. de Moraes Pessôa, J. E. F. do Carmo.....63

Enhanced Oil Recovery by Injecting Oleic Acid as a Surfactant into the Porous Medium

M. S. Mohamed, S. Ndyaye, K. Talla, C. Mbow, A. C. Beye.....82

Open Journal of Fluid Dynamics (OJFD)

Journal Information

SUBSCRIPTIONS

The *Open Journal of Fluid Dynamics* (Online at Scientific Research Publishing, <https://www.scirp.org/>) is published quarterly by Scientific Research Publishing, Inc., USA.

Subscription rates:

Print: \$79 per issue.

To subscribe, please contact Journals Subscriptions Department, E-mail: sub@scirp.org

SERVICES

Advertisements

Advertisement Sales Department, E-mail: service@scirp.org

Reprints (minimum quantity 100 copies)

Reprints Co-ordinator, Scientific Research Publishing, Inc., USA.

E-mail: sub@scirp.org

COPYRIGHT

Copyright and reuse rights for the front matter of the journal:

Copyright © 2020 by Scientific Research Publishing Inc.

This work is licensed under the Creative Commons Attribution International License (CC BY).

<http://creativecommons.org/licenses/by/4.0/>

Copyright for individual papers of the journal:

Copyright © 2020 by author(s) and Scientific Research Publishing Inc.

Reuse rights for individual papers:

Note: At SCIRP authors can choose between CC BY and CC BY-NC. Please consult each paper for its reuse rights.

Disclaimer of liability

Statements and opinions expressed in the articles and communications are those of the individual contributors and not the statements and opinion of Scientific Research Publishing, Inc. We assume no responsibility or liability for any damage or injury to persons or property arising out of the use of any materials, instructions, methods or ideas contained herein. We expressly disclaim any implied warranties of merchantability or fitness for a particular purpose. If expert assistance is required, the services of a competent professional person should be sought.

PRODUCTION INFORMATION

For manuscripts that have been accepted for publication, please contact:

E-mail: ojfd@scirp.org



Open Journal of Fluid Dynamics

ISSN: 2165-3852 (print) ISSN: 2165-3860 (online)

<https://www.scirp.org/journal/ojfd>

Open Journal of Fluid Dynamics (OJFD) is an international journal dedicated to the latest advancement of fluid dynamics. The goal of this journal is to provide a platform for scientists and academicians all over the world to promote, share, and discuss various new issues and developments in different areas of applied science.

Editor-in-Chief

Prof. Heuy-Dong Kim

Andong National University, South Korea

Associate Editor

Prof. Mohammad Mehdi Rashidi

Bu-Ali Sina University, Hamedan, Iran

Editorial Board

Prof. Saeid Abbasbandy

Dr. Rajan Kumar

Prof. Ramesh K. Agarwal

Prof. Mario Mlsale

Dr. Wei Bai

Dr. Khaled A. Sallam

Prof. Mostafa Barigou

Prof. Richard Saurel

Prof. Bin Chen

Prof. José R. Serrano

Prof. Juergen Czarske

Dr. Bhupendra Kumar Sharma

Prof. Sandip Ghosal

Dr. Makoto Umeki

Prof. Anup Gokarn

Prof. Hamit Yurtseven

Prof. Russell G. Keanini

Prof. M. Masud K. Khan

Subject Coverage

All manuscripts must be prepared in English, and are subject to a rigorous and fair peer-review process. Accepted papers will immediately appear online followed by printed hard copy. The journal publishes original papers including but not limited to the following fields:

Aerodynamics
Bio-Fluid Mechanics
Boundary Layer Flow
Combustion and Reacting Flow
Compressible Flow
Computational Fluid Dynamics
Environmental Fluid Dynamics
Environmental Fluid Mechanics
Experimental Fluid Mechanics
Fluid Mechanics
Fluid-Structure Interaction

Free Shear Layer Flow
Heat and Mass Transfer
High-Speed Flow
Hydrodynamic
Jet and Wake Flow
Magnetic Fluid
Micro and Nano Fluidics
Micro Fluid Dynamics
Multi-Phase Flow
Multiphase Fluid Dynamics
Naval Hydrodynamics

Non-Newtonian Flow
Non-Newtonian Fluid Mechanics
Physical-Chemical Hydrodynamics
Plasma Dynamics
Radiation Hydrodynamics
Rotating and Stratified Fluid
Rotating Flow
Seepage Mechanics
Theoretical Fluid Dynamics
Turbulence Theory
Viscous Fluid

We are also interested in: 1) Short Reports—2-5 page papers where an author can either present an idea with theoretical background but has not yet completed the research needed for a complete paper or preliminary data; 2) Book Reviews—Comments and critiques.

Notes for Prospective Authors

Submitted papers should not have been previously published nor be currently under consideration for publication elsewhere. All papers are refereed through a peer review process. For more details about the submissions, please access the website.

Website and E-Mail

<https://www.scirp.org/journal/ojfd>

E-mail: ojfd@scirp.org