



Journal of Applied Fluid Mechanics

Volume 1, Number 1, January 2008

Table of contents

H. Chanson	1	A Simple Solution of the Laminar Dam Break Wave
C.H Gibson, V.G Bondur, R.N Keeler and P.T Leung	11	Energetics of the Beamed Zombie Turbulence Maser Action Mechanism for Remote Detection of Submerged Oceanic Turbulence.
A. Tamayol, B.Firoozabadi and G. Ahmadi	43	Determination of Settling Tanks Performance Using an Eulerian-Lagrangian Method
Nguyen Dinh Tam, Lee Thong See and Low Hong Tong	55	Effect of Air Entrainment on Fluid Transients in Pumping Systems
T. Bunsri, M.Sivakumar and D. Hagare	62	Numerical Modelling of Tracer Transport in Unsaturated Porous Media
A. Gorin	71	Turbulent Separated Flows: Near-Wall Behavior and Heat and Mass Transfer
Sumon Saha, Md. Arif Hasan Mamun, M. Zakir Hossain and A.K.M. Sadrul Islam	78	Mixed Convection in an Enclosure with Different Inlet and Exit Configurations

Journal of Applied Fluid Mechanics

Volume 1, Number 1, January 2008

www.jafmonline.net

Journal of Applied Fluid Mechanics



Published biannually

Volume 1, Number 1, January 2008

www.jafmonline.net

Journal of Applied Fluids Mechanics

ISSN: 1735-3572 ISSN (online): 1735-3645

www.jafmonline.net

Editor-in-Chief

Ebrahim Shirani

Professor of Mechanical Engineering
Isfahan University of Technology
Email: director@jafmonline.net

Associate Editors

Prof. Nasser Ashgriz

University of Toronto, Ontario, Canada

Professor Lim Tee Tai

National University of Singapore,
Singapore

Professor Morteza Gharib

California Institute of Technology,
California, USA

Professor Stavros Tavoularis

University of Ottawa, Canada

Professor Peyman Givi

University of Pittsburgh, PA, USA

Professor Gretar Tryggvason

Polytechnic institute, Massachusetts,
USA

Professor Fazle Hussain

University of Houston, TX, USA

Professor Patrick Weidman

University of Colorado, Colorado, USA

Professor Masura Kiya

Kushiro National College of Technology,
Japan

Professor Heng Zhou

Tianjin University, China

Professor Hui Meng

State University of New York, NY, USA

Professor Katepalli Sreenivasan

University of Maryland, DC, USA

Professor Roddam Narasimha

National Institute of Advanced Studies,
India

Professor Dennis K. McLaughlin

Penn State University, PA, USA

Executive Editors

Prof. Ali Bidokhti

Institute of Geophysics, University of
Tehran

Dr. Esmaeel Esmaeelzadeh

Tabriz University

Dr. Mohamad Farshchi

Sharif University of Technology

Prof. Vahid Esfahanian

University of Tehran

Dr. Mohamad Hassan Khaleghi

Tarbiat Modares University

Dr. Hamid Niazmand

Ferdowsi University of Mashhad

Aim and scope

The aim of *JAFM* is to advance the development of fluid mechanics research in the scientific community and to provide an authoritative medium for publication of original articles covering theoretical, computational and experimental research embodying scientific aspects of the mechanics of fluids and their applications. It is to be an online journal free of charge for both authors and researchers in the third world countries.

Editors welcome papers from all countries in the hope that it will advance the scientific standard of publications and provide a channel for communications among fluid mechanic scholars all over the world.

Subject Areas

JAFM is targeted to a broad community interested in different aspects of fluid dynamics. This community largely consists of scholars in Mechanical engineering, Chemical Engineering, Civil Engineering, Aerospace Engineering, Environmental Engineering, Nuclear Engineering, Aeronautics and Astronautics, and Metrological Sciences.

JAFM contains regular papers only. It does not accept letters, short papers, news letters nor commercial advertisements. Since *JAFM* is an online journal is to speed up the editorial procedure and publish papers within 12 weeks from the time of submission.

The topics of the journal cover any branch of theoretical, numerical and experimental fluid mechanics, including the following fields:

Turbulence, Instabilities and transition, Computation fluid dynamics, Aerospace fluid, Geophysical fluid dynamics, Astrophysical fluid dynamics, Gas dynamics, Boundary layer flows, Environmental fluid mechanics, Combustion and reacting flows, Hydrodynamics and hydraulics, Fluid machinery, Bluff-body aerodynamics, Multi-phase flows, Industrial fluid mechanics, Bio-fluid mechanics, Flow visualization, Flow measurement, Flow control, Flow induced vibration, Heat and mass transfer, Magneto hydrodynamics, Aeroacoustics and aeroelasticity, Porous media flows, Swirling flows and Micro- and nano-fluid dynamics.

The journals topics are not to be considered rigid and the online medium will allow the Journal to evolve and adapt in time. The above topics are among the key words which will be used by the software to assign the submitted manuscript to the Associate Editors.

JAFM subscription

Authors, readers, and visitors wishing to subscribe to the *JAFM* should register by filling in the online registration form. This form can be accessed by clicking [register now](#) here or the same link at the top of the main page. Further information may be obtained from the *JAFM* secretarial board using the email address: secretary@jafmonline.net.