

IJME

International Journal of
APPLIED MECHANICS



AND

ENGINEERING

2026

Volume 31

Number 1

ISSN 1734-4492

e-ISSN 2353-9003

University of Zielona Góra, POLAND

Honorary Editor-in-Chief and Founder

Edward Walicki

Editor-in-Chief

Paweł Jurczak

Regional Editor

Siu-Lai Chan

Editorial Board

P.Ailawalia	O.Manca
H.I.Andersson	J.Mikielewicz
G.Bergeles	A.S.Mujumdar
R.Będziński	H.Münstedt
A.Biń	H.Ouakad
Y.C.Chen	M.Pakdemirli
B.S.Dandapat	J.-M.Piau
D.Durban	I.Pop
N.El-Kissi	M.M.Rashidi
I.Emri	T.G.Rozgonyi
J.Falicki	J.T.Sawicki
M.Fillon	A.Sobczyk
P.Frankovský	A.R.Srinivasa
M.Z.Galicki	G.Stachowiak
R.S.R.Gorla	D.Steigmann
A.Gronowicz	T.A.Stolarski
R.Halama	Hyung Jin Sung
M.A.Hossain	A.Z.Szeri
D.B.Ingham	P.Trebuña
Z.Kabza	M.Wagner
M.Królak	A.Walicka
K.Leksycki	D.Wilk-Kolodziejczyk
K.M.Liew	E.Wittbrodt
K.Magnucki	A.K.Yadav

Publikacja jest finansowana przez Ministra Edukacji i Nauki

Printed in Poland

University of Zielona Góra, Poland

This work is subject to copyright. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the written permission of the publisher, except as stated below. Single photocopies of single articles may be made for private study or research. Illustrations and short extracts from the text of individual contributions may be copied provided that the source is acknowledged, the permission of the authors is obtained and Editorial Office of IJAME is notified. Authorization to photocopy items for internal or personal use, is granted by Editorial Office of IJAME to libraries and other users, provided that the base fee of US\$ 20.00 per copy is paid directly to Editorial Office of IJAME.

UNIVERSITY of Zielona Góra

International Journal of
APPLIED MECHANICS
AND
ENGINEERING

2026 Volume 31

Number 1

ISSN 1734-4492
e-ISSN 2353-9003

International Journal of AME is abstracted/indexed in:

Applied Mechanics Reviews

Arianta

Astrophysics Data System (ADS)

Baidu Scholar

BazTech

Chemical Abstracts Service (CAS) - Cplus

Chemical Abstracts Service (CAS) - SciFinder

CNKI Scholar (China Nat. Knowledge Infrastructure)

CNPIEC - cnpLINKer

Dimensions

EBSCO

Engineering Village

ExLibris

Genamics JournalSeek

GoOA

Google Scholar

Inspec

Japan Science and Technology Agency (JST)

J-Gate

JournalTOCs

KESLI-NDSL (Korean Nat. Discovery for Sci. Leaders)

MyScienceWork

Naver Academic

Naviga (Softweco)

Norwegian Register for Sci. J., Series and Publishers

ProQuest

Publons

QOAM (Quality Open Access Market)

ReadCube

Referativnyi Zhurnal (VINITI)

SCImago (SJR)

SCOPUS

Semantic Scholar

Sherpa/RoMEO

TDNet

TEMA Technik und Management

Ulrich's Periodicals Directory/ulrichsweb

WanFang Data

WorldCat (OCLC)

X-MOL

<https://www.ijame-poland.com/>

<https://zbc.uz.zgora.pl/repozytorium/dlibra/publication/77304>

ZIELONA GÓRA, Poland

Contents

M.A. N.- Ali, L.K. Jawad and A.I. Razooqi	
Central hole size influences a fatigue crack behavior of Al7050-T6 alloy	1
I. Elkott, M.S. Abdel Latif, I.L. El-Kalla and A.H. Abdel Kader	
Analysis of fractional natural convection heat transfer of G0-MOS2 engine oil	
in an oscillating vertical cylinder.....	16
S.S. Khedkar, L.Damahe, S.S. Chaudhari, P.R. Fulzele, S.Algburi, S.J. Mohammed and H.Sh. Majdi	
Enhanced defect detection in valve-casting radiography using morphological image processing	
and machine learning.....	27
Z.Kh. Mageed, E.F. Abbas and I.J. Hasan	
Overview of the mechanical forced vibration used to enhance heat transfer.....	43
F. Mesrafet, Y. Menail, K. Chaoui and D. Bouhafara	
Study of the fracture facies when drilling c-orthocryl carbon-resin composite material	
for orthopedic prosthesis	75
Z. Moussa and N.M. Bouaziz	
Analysis of conjugate mixed convection flow of a nanofluid over a vertical fin in porous media.....	92
M.A. Abdulrehman, R.O. Mustafa, B.R. Hassan, H.A. Goaiz and A.Q. Moften	
Strengthening of reinforced normal and self-compacted concrete beams:	
comparative experimental investigation	108
R. Nagapuri, R. Gurijala, R.A. Reddy, M.R. Perati	
Study of Love waves in a heterogeneous viscoporoelastic layer overlying a viscoporoelastic half-space.....	123
T.L. Raju and V.R. Bonu	
Unsteady MHD 2- liquid heat transmission plasma flow in a rotating system with Hall currents	
via permeable conducting plates.....	137
Y. Namala and D. Hymavathi	
Effect of chemical reaction on heat and mass transfer of porous MHD Casson nano fluid	
with melting and Joule heating	165