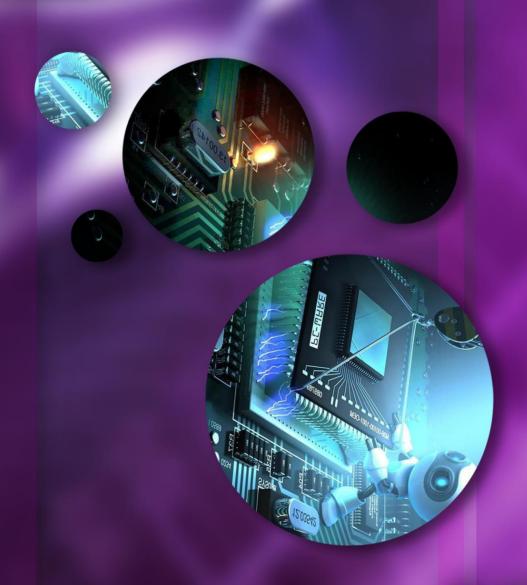


ISSN: 2454-2261 Vol. 11 No. 4 July 2025

# International Research Journal of Engineering, IT & Scientific Research



Published by : Scientific & Literature Open Access Publishing London, UK



# International Research Journal of Engineering, IT & Scientific research

# EDITOR-IN-CHIEF

**Prof. Paul Dohler** 

King's College London, London, United Kingdom

# CHIEF EXECUTIVE EDITOR

T. Koldoris

Scopus ID: 57415636800, Queen Mary University of London, London, United Kingdom

## CURRENT EDITORIAL BOARD

Prof. Mubeen Javed, Ph.D.

Coventry University, United Kingdom

Prof. Dr. Mohd Zuri Ghani

Universiti Sains Malaysia,

Malaysia

Ashaq Hussain Dar, Ph.D.

National Institute of Electronics &

IT, India

Prof. Ahdi Hassan

IATELS, Istanbul,

Turkey

Aysar Yasin, Ph.D.

An-Najah National University,

Palestinian

Santanu Panda, Ph.D.

Institute of Animal Health and Veterinary Biologicals, Kolkata

Ikufumi Katayama, Ph.D.

Yokohama National University,

Japan

Prof. Iftikhar B. Abbasov

Southern Federal University, Rostov-

on-Don, Russia

Krishna Kumar, Ph.D.

University of Cambridge,

United Kingdom

Dr. Augustina Sackle

Cape Coast Technical University, Ghana

Dr. Adrian Lawrence

Emory Hospitals, United States

Dr. Namrata Verma

Vivekananda Technical University, India

# INTERNATIONAL ADVISORY BOARD

Prof. Patricia Popoola, Ph.D.

Tshwane University of Technology,

South Africa

Prof. Dr. Abdel-Badeh M Salem

Ain Shams University,

Egyni

Adeniyi Adetunji, Ph.D.

Bowen University,

Nigeria

Farzam Farzan, Ph.D.

University of Mazandaran,

Iran

Harinder Singh, Ph.D.

University of Illinois at Chicago,

**United States** 

Dr. Tuswadi

Hiroshima University,

Japan

Dharmendra Singh, Ph.D.

Houston Methodist Research

Institute, USA

# MANAGEMENT COMMITTEE

# Tamar Shiukashvili (A/Prof.)

Telavi State University, Georgia

# Tihnov Koldoris (Prof.)

Queen Mary University of London, United Kingdom

# Andrew May (Prof.)

Royal Veterinary College, United Kingdom

# Suman Rajest (A/Prof.)

Vels Institute of Science, India

# Oscar Frost (Prof.)

Imperial College London, United Kingdom

#### Liu Xiao (Prof.)

Brunel University London, United Kingdom

# **Kevin Livingstone** (*Prof.*)

London School of Economics and Political Science, United Kingdom

# Helen Jerry (Prof.)

University of London, United Kingdom

#### **Bryony Karen** (*Prof.*)

University of Roehampton, United Kingdom

#### Ted F.L. Jing (A/Prof.)

Shanghai International Studies University, China

# W E B M A S T E R

#### **Vedran Vucic**

PKP Developer, Belgrade

# COPYRIGHT AND COPYING (IN ANY FORMAT

Articles published in the International Research Journal of Engineering, IT & Scientific research (IRJEIS) ISSN 2454-2261 (Online) are available under Creative Commons Attribution Non-Commercial No Derivatives License (CC BY-NC-ND 4.0). Authors retain copyright in their work and grant IRJEIS right of first publication under CC BY-NC-ND 4.0. Users have the right to read, download, copy, distribute, print, search, or link to the full texts of articles in this journal, and to use them for any other lawful purpose. Articles published in IRJEIS can be copied, communicated and shared in their published form for non-commercial purposes provided full attribution is given to the author and the journal. Authors are able to enter into separate, additional contractual arrangements for the non-exclusive distribution of the journal's published version of the work (e.g., post it to an institutional repository or publish it in a book), with an acknowledgment of its initial publication in this journal. This copyright notice applies to articles published in IRJEIS volumes 6 onwards. Please read about the copyright notices for previous volumes under Journal History.

#### DISCLAIMER

The Publisher and Editors cannot be held responsible for errors or any consequences arising from the use of information contained in this journal; the views and opinions expressed do not necessarily reflect those of the Publisher and Editors, neither does the publication of advertisements constitute any endorsement by the Publisher and Editors of the products advertised.

VOLUME IT / IVENIBER I / VEE	1 -0-0
International	
Research	
Journal of	
Engineering,	
IT &	
Scientific research	
Research Articles	Pages
Fuzzy risk analysis for field condition, external, and technical risk factors in Subsea Pipeline Construction Projects to improve contingency cost accuracy  Herianto Ebong, Yusuf Latief, Muhammad Yusuf	71
Ergonomics risk factors analysis of building construction work in SARBAGITA Region Bali Indonesia  Lilik Sudiajeng, M. Yusuf, Made Anom Santiana, I Ketut Sutapa, Bernard Martin	88
Analysis of cantilever beam reinforcement methods and costs in the Wonderland Uluwatu Project  I Wayan Intara, I Made Jaya, Alda Tertia Marella, I Wayan Suasira,	98

I Ketut Sutapa

Integration of ergonomic principles in the design and construction of car wheel polishing tools to improve operator performance  $I\ Gede\ Santosa,\ M.\ Yusuf$ *105* 



# Scientific & Literature Open Access Publishing

Homepage: https://sloap.org/journals/index.php/irjeis/