



Table of contents

Editorial	i
Table of contents	iii
1. Comparative study of tree-based vegetable and mineral oils as cutting fluids in milling AA7075 under MQL condition Muhammad Rizal, Husni Usman, Ferdy Alfiliandra, T.M. Haikal Zayyan, Jaharah A. Ghani	1
2. Tool life and surface roughness in dry condition down milling of hardened AISI4340 at high cutting speed Baizura Zubir, Jaharah A. Ghani, Juri Afifah Zakiyyah, Said Mohamad Sazali, Ahmad Mohd Nizam	13
3. Exploring polymer matrix composites reinforced with agro-waste wheat straw fibers from a tribological perspective in sustainable materials Shailendrasingh B. Girase, Basavraj S. Kothavale	30
4. Comparative analysis of novel grease formulations from used transformer and engine oils Muhammad Auni Hairunnaja, Mohd Aizudin Abd Aziz, Mohd Azmir Arifin, Nur Amira Fatihah Bashari, Navinash Nedumaran, Khairuddin Md Isa	44
5. Comparative analysis of different machining condition in drilling cobalt chromium molybdenum Roshaliza Hamidon, Amira Filzah Azizan, Muhamad Nasir Murad, Muhammad Hasnulhadi Mohammad Jaafar, Siti Aishah Adam	64
6. Triboinformatics modelling of ultrahigh molecular weight polyethylene wear rate in total hip replacement using machine learning approaches Vipin Kumar, Ravi P. Tewari, Anubhav Rawat	82
7. Wear detection by sulfides as solid lubricants and thermoelectric materials Tomohiro Sato, Masaki Yoshihara, Kenichi Saitoh, Masanori Takuma, Yoshimasa Takahashi	104
8. Influence of thermochemical gas nitriding on morphology and dry wear of Duplex-S32205 Lailatul Harina Paijan, Md Abdul Maleque, Mohd Fadzli Bin Abdollah, Nor Ana Rosli	117

9. **Mechanical and tribological properties of polypropylene filled with almond shells particles: Effect of particles size and proportion**
Mohamed Teldjoun, Mohammed Mendas, Maryam Al-Ejji, Rayane Akoumeh, Patrik Sobolciak 129
10. **Energy harvesting: Utilizing fabric friction to generate electrical energy**
Nuraliza Norawzi, Ili Farhana Mohamad Ali Nasri, Wan Nursheila Wan Jusoh, Ridwan Yahaya 142
11. **Tribological performance analysis of palm oil esters as alternative automotive engine oil**
Norhanifah Abdul Rahman, Mohamad Ali Ahmad, Mimi Azlina Abu Bakar, Matzaini Katon 159
12. **Analysis of Von Mises stress on Lumbar 4 to Sacral 1 with variation in body mass index**
Hasyid Ahmad Wicaksono, Leonardo Jalusius Rama, Mohamad Izzur Maula, Muhammad Imam Ammarullah, M. Danny Pratama Lamura, Arief Indra Perdana Tri, Winarni, Jamari 174
13. **Effect of interfacial bonding capacity on the tribological performances of plant fiber reinforced polymer composite**
Damira Muhalim, Shahira Liza Kamis, Noor Ayuma Mat Tahir 185
14. **Hemodynamic analysis of bifurcated carotid artery morphologies at different physiological conditions**
Nur Amani Hanis Roseman, Ishkrizat Taib, Norfrizalidris Darlis, Ahmad Mubarak Tajul Arifin, Nor Adrian Nor Salim, Awaludin Martin, Feblil Huda, Takahisa Yamamoto 242
15. **Thermophysical, rheological and tribological properties of palm oil with hybrid CuO/MWCNT additive nanoparticles as cutting fluid on CNC machining**
Poppy Puspitasari, Avita A. Permanasari, Abdul M. H. S. Lubis, , Muhammad Z. Ardiansyah, Diki D. Pramono, Muhammad Ilman Hakimi Chua Abdullah 268