



Table of contents

Editorial	i
Table of contents	iii
1. Multi-objective optimization using Grey Relational Analysis (GRA) for the high-speed orthogonal turning of heat-treated alloy steel Saima Yaqoob, Jahaarah A. Ghani, Nabil Jouini, Afifah Z. Juri, Che Hassan Che Haron	1
2. Tribological characteristics of palm olein under conditions of elevated temperature and effect of addition molybdenum disulfide at high load Aiman Yahaya, Syahrullail Samion, Siti Mariam Abdul Aziz, Zulhanafi Paiman, Mohamad Nor Musa	17
3. Evaluating the chip formation process and machining performance during orthogonal cutting using bio-based metalworking fluids Amiril Sahab Abdul Sani, Shahandzir Baharom, Zubaidah Zamri	31
4. Evaluating the triboelectric performance of trimethylolpropane trioleate grease Nur Aisyah Affrina Mohamed Ariffin, Chiew Tin Lee, Haris Ahmad Israr Ahmad, William Woei Fong Chong	46
5. Loading and unloading behaviour of an elastic-plastic contact in the presence of trapped fluid interference: biomechanical implications M. Danny Pratama Lamura, Muhammad Imam Ammarullah, Mohamad Izzur Maula, Taufiq Hidayat, Hasyid Ahmad Wicaksono, Michael Ambarita, Athanasius Priharyoto Bayuseno, J. Jamari	57
6. Tribological evaluation of a novel scallop-shell CaCO ₃ additive for extracted banana peel oil lubricant Fawzan Hanafi Mohamad Fazdhli, Muhammad Ilman Hakimi Chua Abdullah, Mohd Fadzli Bin Abdollah, Chye Wong Jie, Effendi Mohamad, Rohana Abdullah, Syahrul Azwan Sundi@Suandi, Iskandar Waini, Najiyah Safwa Khashi'ie, Poppy Puspitasari, Ayu Avita	71
7. Thermal stability of laser modified die insert surface in hot press forming of 22MnB5 Norhafzan Bariman, Syarifah Nur Aqida Syed Ahmad, Izwan Ismail, Khairil Che Mat	86

8. Evaluation of various loads on the tribological performance of palm oil biodiesel-based lubricant using the ball-on-disc tribometer Favian Jikol, Mohd Zaid Akop, Yusmady Mohamed Arifin, Mohd Azli Salim, Safarudin Gazali Herawan	104
9. Tribological evaluation of sintered sulfide dispersed bronze atomized powder - Effect of sintering atmosphere Yuki Imai, Tomohiro Sato, Ken-ich Saitoh, Masanori Takuma, Yoshimasa Takahashi, Ryo Shishido	120
10. The effect of PDMS on Ti6Al4V for surface anti-wear and corrosion resistance Mohd Harizan Zul, Ramdziah Md Nasir, Mahadzir Ishak, Moinuddin Mohammed Quazi ..	138
11. Evaluating palm oil ester base oils as eco-friendly alternatives in lubricant formulations Samihah Mustaffha, Darius El Pebrian, Mohd Muhyiddin Mustafa, Noritsugu Umehara, Nik Roselina Nik Roseley, Mohamad Ali Ahmad, Nor Azmmi Masripan	158
12. Assessment of lubricant performance enhanced with nanoadditive in punching and blanking of aluminium Muhammad Shuhaimi Ibrahim, Mohd Hafis Sulaiman	169
13. A study of end milling process parameter's effect on thin wall aluminum-7075 surface roughness under minimum quantity lubrication Arif Wahjudi, Ahmad R. Yusoff, Sabil Sabil, Bobby O. P. Soepangkat, Suhardjono Suhardjono	185
14. Addition of graphene oxide (GO) nanoparticles in trimethylolpropane ester (TMPE) bio-lubricant: Impact on tribological characteristics of friction and wear Zulhanafi Paiman, Syahrullail Samion, Nur Faizin Zaharudin, Mohamad Nor Musa	197
15. Tribological performances of palm oil derived-oleic acid biolubricant incorporated with antioxidant and viscosity improver Amanda M. Norazman, Zulhanafi Paiman, Syahrullail Samion	217