

Editorial Board

Editor in Chief

-Assoc. Prof. Ir. Dr.
Ahmad Baharuddin
Abdullah

Secretary

-Zarirah Karrim Wani

Inside the Issue

Preface.....1
Highlight.....1
New Member.....1
Article.....2

Recent Publications

Published

1. MF Jamaluddin et al.,
Laser in Engineering J.,
51(6), pp. 319-331, 2021.

Accepted Book Chapter

1. MZ Rizlan et al.,
Advanced Materials and
Engineering
Technologies. Springer.
2. MA Roslee et al.,
Advanced Maritime
Technologies and
Application, Springer.

Active Grants

PRGS Grant

Title: Prototyping of
hybrid machine; 2019-
2022

Paid Journal = Predatory Journal?

Paid journal is defined as a paid open-access publication model, where the publisher does not charge subscription fees to the reader but receives money directly from the author as article processing charge (APC). While the predatory journal is a journal publish by a publisher that are ready to publish any article for payment without any intention of proper review process¹.

The question is, ARE THEY SAME? Paid journal may contribute to



research outcomes meet the expectation of the reviewers i.e., novelty and well presented but need to have enough money for the fees as well. A very good article is not guaranteed to get published until the fees is paid.

From the report, average APC made by UK scholars in 2016 is approximately RM11,000.00 for a single paper⁵. An institution may spend millions a year for the payment.

Amount of APC depends on reputation of the journal, indexing body and impact factor. Some universities cover certain amount of the fees.

a greedy publisher, which lead to become a predator³ one day. Even though, still many claimed that both are different from many aspects like lack of peer review⁴. However, it is still unhealthy practices.

Authors are burden with the fees. They are in dilemma. Not just need to make their

New Member

We are welcoming Muhammad Faris Akmal bin Md Azlin to the Metal Forming Research Lab. Effective on 1 November 2021, he official became new member to the lab. His project is on tribological performance of additive manufactured aluminum alloy. His project is part of project approved under SATU Joint Research Scheme program in the year 2021. He just graduated from Universiti Teknikal Melaka Malaysia (UTeM).



Continue (From left column)

Peer review is usually done by an author/researcher and unfortunately, they never get paid for their review works even from an open access journal.

However, it agreed that the open access publishing has been manipulated by a businessman (individual or company) under the title of publisher in exploiting the academic community. Integrity of the scholars and reliability of the findings may questions as the trend proceeds.

References

1. Beall, Jeffrey (2012). "Predatory publishers are corrupting open access". *Nature*. **489** (7415): 179.
2. Victoria Glasson, <https://rxcommms.com/blog/6-ways-spot-predatory-journal/>. Access on 11/11/21
3. Cathy Vakili, (2019). "Predatory journals; Authors and readers beware". *Can Fam Physician*. **65**(2): 92. <https://predatoryjournals.com/publishers/> Access on 11/11/21.
4. <https://predatory-publishing.com/is-open-access-the-same-as-predatory-publishing/> Access on 11/11/21.

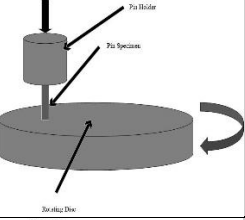
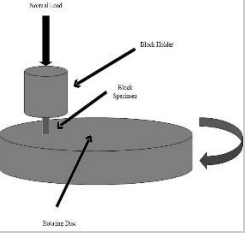
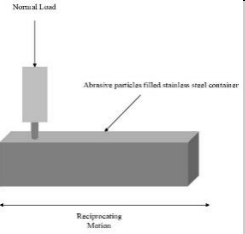
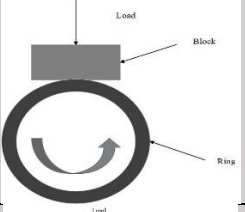
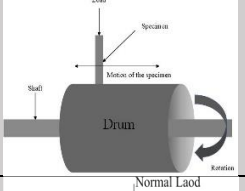
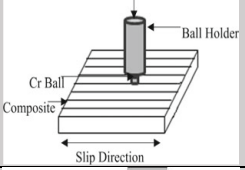
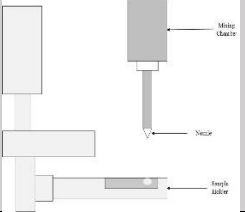
Welcome Back Banner



Contact Details

Metal Forming Research Laboratory, School of Mechanical Engineering, Engineering Campus Universiti Sains Malaysia Seri Ampangan
14300 Nibong Tebal, Pulau Pinang, MALAYSIA, Phone: 604-5996361, Fax: 604-5996912, e-mail: mebaha@usm.my, <http://metalfforming.usm.my>

There are various types of tribo-tests that are available to be used in the tribological performance evaluation of a material. The test is based on the contact geometry of the tested material with the counter-face.

1		<p>Pin-on-disk test (Olofsson <i>et al.</i>, 2018; Sabeel <i>et al.</i>, 2012)</p> <ul style="list-style-type: none"> • Abrasion test follows ASTM G99-05 • Dimension of the specimen is 10 mm × 10 mm × 20 mm • The test specimen is set perpendicular under loading against rotating counter-face Contact area is not varying with respect to sliding time • Operating parameters: sliding velocity, sliding distance, normal load, wet or dry sliding, abrasive or adhesive contact condition • Application: sliding wear of various materials where constant contact area of interest
2		<p>Block on disc test (Yousif <i>et al.</i>, 2010)</p> <ul style="list-style-type: none"> • Block on disc test follows ASTM G99 • Dimension of the specimen is 10 mm × 10 mm × 20 mm • The test specimen is placed vertically to the counter-face which is rotating • An infrared thermometer can be used for the measuring interfaces temperatures during the interaction of sample and counter-face • Contact area is not varying with respect to sliding time • Test can be adhesive and abrasive • Operating parameters: sliding velocity, sliding distance, normal load, wet or dry sliding, abrasive or adhesive contact condition • Applications: sliding wear of various materials where constant contact area of interest
3		<p>Linear reciprocating test (Yousif <i>et al.</i>, 2010)</p> <ul style="list-style-type: none"> • Linear reciprocating abrasion test follows ASTM G133-05e1 • Abrasive wear behaviour of materials under three-body conditions • It has space for a variety of sample geometries to form point, line and area contacts • Stainless steel container filled with abrasive moves linearly with the help of the power screw which is directly coupled to the motor and the specimen slides in the abrasive particles filled container • Test is abrasive in the presence of abrasive particles in the stainless-steel container, otherwise the test is purely adhesive • Operating parameters: sliding velocity, wet or dry sliding, abrasive types, applied load • Application: linear sliding of window panels, door handles, lock mechanisms
4		<p>Block on ring test (Nirmal <i>et al.</i>, 2011)</p> <ul style="list-style-type: none"> • Block on ring test follows ASTM G77, G137-95 standards • Dimension of the specimen is 10 mm × 20 mm × 50 mm • Test sample place parallel to the side of the counterface and contact surface varies with the sliding time • Operating parameter: sliding velocity, sliding distance, applied load, temperature, wet or dry sliding • Applications: crankshafts, camshafts, piston pins, connecting rods, suspensions, lubricants
5		<p>Pin on drum test (Nirmal <i>et al.</i>, 2011)</p> <ul style="list-style-type: none"> • Pin on drum test follows ASTM A514 • Specimen travels linearly which is placed horizontally against a rotating drum • The drum is covered with abrasive paper. Without abrasive paper, test is simply adhesive • Operating parameters: sliding distance, sliding velocity, applied load, wet or dry sliding, abrasive or adhesive contact condition • Applications: conveyor belts, rotating rollers etc.
6		<p>Low amplitude oscillating test (Sharma <i>et al.</i>, 2011)</p> <ul style="list-style-type: none"> • Known as fretting wear 10 mm × 10 mm × 3–4 mm • A polished chromium steel ball of having surface roughness values in the range 0.01–0.015 µm oscillates against the specimen. The diameter of the ball is 10 mm • Operating parameter: load, sliding velocity, number of cycles, slip amplitude, slip, frequency, contact geometry, material properties, environment • Application: bearings, gears, bushes, flanges, multilayer leaf springs, palliatives
7		<p>Erosion test (Jena <i>et al.</i>, 2018)</p> <ul style="list-style-type: none"> • Erosion test follows ASTM: G76–07 • Dimension of the specimen 20 mm × 20 mm • The dry and compressed air with the solid sand particles hit on the test sample at various speeds and angle at constant feed rate through converging nozzle • Stand off distance is 10 mm • Operating parameters: impingement angle, impact velocity, erodent type • Application: rotor blade, conveyer belt

References

1. Olofsson *et al.*, *Wear*, 410–411, 165–172. 2018
2. Sabeel *et al.*, *Materials & Design (1980-2015)*, 36, 306–315. 2012
3. Yousif *et al.*, *Materials & Design*, 48, 2–13. 2010
4. Nirmal *et al.*, *Polymeric Composites*, 7. 2011
5. Sharma *et al.*, *Tribology Letters*, 43(3), 267–273. 2011
6. Jena *et al.*, *Advances in Polymer Technology*, 37(3), 761–769. 2018

** This article is part of literature review prepared by Muhammad Faris Akmal Md Azlin (Master candidate, School of Mechanical Engineering, USM, Date: 15 of November 2021) for his proposal preparation.