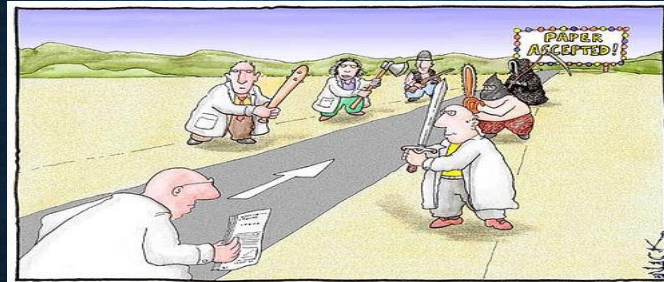


How to Write a High-impact Review Paper



Most scientists regarded the new streamlined peer-review process as 'quite an improvement.'

LAM SU SHIUNG
Institute of Tropical Aquaculture & Fisheries
(Akuatrop),
Universiti Malaysia Terengganu

1

OUTCOMES OF THIS SHARING

This talk will answer followings questions:

1. Why review papers?
2. What is a review paper?
3. How to write a review paper?
4. Where to submit & How to submit
5. Is there any challenges?

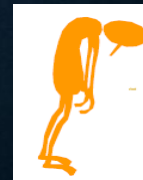
2

OVERVIEW

- Submission of a manuscript to a journal is usually an exciting prospect for researchers, especially younger ones.
- News of acceptance from the Editor is even more exciting.
- News of rejection is usually very depressing.

Never give up..

Nobel prize work rejected..



3

PART A: Background

4



Su Shiung LAM

- **Deputy Director of International Centre**, Office of Deputy Vice Chancellor (Academic and International), *Universiti Malaysia Terengganu (Malaysia)*
- **Professor**, *Pyrolysis Technology Research Group, Institute of Tropical Aquaculture and Fisheries (Akuatrop), Universiti Malaysia Terengganu (Malaysia)*
- **Chair Professor**, *Henan Province (China)*
- **Distinguished Professor**, *Co-Innovation Center of Efficient Processing and Utilization of Forestry Resources, Nanjing Forestry University, University (China)*
- **Visiting Professor**, *Henan Province Engineering Research Center for Biomass Value-added Products, Henan Agricultural University (China)*
- **Visiting Research Fellow**, *Education University of Hong Kong (China)*
- **Ts./P.Tech**, *Professional Technologist, Malaysia Board of Technologies (MBOT), Green Technology*
- **Certified Environmental Professional/ Competent Person** in Hazardous Waste Management, EIMAS, DOE Malaysia

5

Editorial Role

- ❖ **Deputy Editor in Chief 副总主编:**
 - **Journal of Sustainability Science & Management (Scopus)**
- ❖ **Editor 主编:**
 - **Environmental Pollution (IF: 8.071, Q1)**
- ❖ **Associate Editor 副主编:**
 - **Environmental Geochemistry and Health (IF: 4.609, Q1)**
 - **Frontiers in Energy Research (IF: 4.008, Q2)**
 - **Energy & Environment (IF: 2.945, Q3)**
 - **Environmental Advances (Elsevier)**
- ❖ **Editorial Board Member:**
 - **Bioresource Technology (IF: 9.642, Q1)**
 - **Chinese Chemical Letters (IF: 6.779, Q1)**
 - **Materials Science for Energy Technologies (MSET) (Scopus)**
 - **Renewable and Sustainable Energy Transition (Elsevier)**
- ❖ **Guest Editor of Special Issue 客座编辑:**
 - **Journal of Hazardous Materials (IF: 10.588, Q1)**
 - **Bioresource Technology (IF: 9.642, Q1)**
 - **Environmental Pollution (IF: 8.071, Q1)**
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 - **Journal of Analytical and Applied Pyrolysis (IF: 5.541, Q1)**

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CORRESPONDENCE | 22 June 2021

Ancient oaks of Europe are archives – protect them

Christian Sonne , Changliu Xia & Su Shung Lam



Kongsegen, the King Oak, in Denmark could be up to 2,000 years old. Credit: Andreas Altenburger/Alamy

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Henry T. Greely Stanford Law School, Stanford, California, USA.



Kongsegen, the King Oak, in Denmark could be up to 2,000 years old.

Ancient oaks of Europe are archives – protect them

Some of the oldest trees in Europe are in danger because they are not being given the necessary level of protection. Oak trees (*Quercus robur*) that are more than 1,000 years old are found in the United Kingdom and in Fennoscandia, which includes Denmark, Sweden and Norway.

For example, Denmark's King Oak (pictured) is one of the world's oldest living trees, dating to around 1,900 years of age. The United Kingdom has the largest collection of ancient oaks, reflecting 1,500 years of ship-building.

The trees contain rings that represent archives of historical climate fluctuations and levels of atmospheric gases, so they can help to answer pressing questions about climate change and ecosystem dynamics (P. M. Kelly *et al.* *Nature* **340**, 57–60, 1989).

Fennoscandia and the United Kingdom could better safeguard their oaks using mechanisms such as those offered by the European Union's Natura 2000 network of protected areas, or the protections conferred by UNESCO World Heritage sites in the United Kingdom. Otherwise, unsustainable management practices, deforestation, air pollution and climate change could leave these ancient species vulnerable to disease and extinction, with the loss of irreplaceable scientific information and cultural heritage.

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Su Shung Lam University Malaysia Terengganu, Terengganu, Malaysia.

Nature | Vol 594 | 24 June 2021 | 485

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CORRESPONDENCE • 11 AUGUST 2020

Denmark recycling plan will cut waste by two-thirds

Su Shiung Lam, Aage K. O. Alstrup & Christian Sonne

As one of the European Union's largest energy consumers and greenhouse-gas polluters (go.nature.com/33piau), Denmark will launch the EU's most ambitious recycling plan in July next year. It aims to cut the country's annual amount of waste for incineration from 800 to 250 kilograms per capita, reducing carbon dioxide emissions to 0.7 million tonnes by 2030. Citizens will sort their waste into ten different types.

The move is in part a response to the COVID-19 pandemic and to a new EU directive for environmental sustainability that promotes a circular economy, lower emissions and a reduction in the use of raw materials and hazardous substances (J. B. Zimmerman *et al. Science* 367, 397–400; 2020). It is hoped that the plan will limit ecosystem damage and the health effects of toxic industrial chemicals. It will also discourage Denmark's unacceptable export of

Denmark recycling plan will cut waste by two-thirds

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If other countries were to adopt similar practices, the world would align faster with the United Nations Sustainable Development Goals on sustainability and planetary health.

Su Shiung Lam Universiti Malaysia Sarawak

Aage K. O. Alstrup Aarhus University, Aarhus, Denmark

Christian Sonne Aarhus University, Roskilde, Denmark

William J. Sutherland University of Cambridge, UK

Karina A. Lythgoe University of Oxford, UK

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192 | Nature | Vol 584 | 13 August 2020

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Science

Sumatran rhinoceros on the brink of extinction

Su Shiung Lam, Nyuk Ling Ma, Wanxi Peng and Christian Sonne

Science **368** (6494), 958.
 DOI: 10.1126/science.abc2202

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Sumatran rhinoceros on the brink of extinction

Su Shiung Lam^{1,2}, Nyuk Ling Ma^{2,3}, Wanxi Peng¹, Christian Sonne^{3,4*}

1,2,3 and 4,5 declare competing interests; see go.nature.com/2zqprnt

Science | 29 May 2020
Vol. 368, Issue 6494, pp. 958
DOI: 10.1126/science.abc2202

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Science

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Science

Wildfire puts koalas at risk of extinction

Su Shiung Lam, Courtney Waugh, Wanxi Peng and Christian Sonne

Science 367 (6479), 750.
DOI: 10.1126/science.aba8372

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Wildfire puts koalas at risk of extinction

Su Shiung Lam^{1,2,3}, Courtney Waugh⁴, Wanxi Peng¹, Christian Sonne^{1,2,3}

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Science 18 Feb 2020
Vol. 367, Issue 6479, pp. 750
DOI: 10.1126/science.aba8372

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Science

European eel population at risk of collapse

Christian Sonne, Wan-xi Peng, Aage K. O. Alstrup and Su Shiung Lam

Science 372 (6548), 1271.
DOI: 10.1126/science.abj3359



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European eel population at risk of collapse

Christian Sonne^{1,2,3}, Wan-xi Peng², Aage K. O. Alstrup¹, Su Shiung Lam^{1,2}

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Science 18 Jun 2021
Vol. 372, Issue 6548, pp. 1271
DOI: 10.1126/science.abj3359

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Long Review paper

Progress in microwave pyrolysis conversion of agricultural waste to value-added biofuels: A batch to continuous approach

Shengbo Gu^{a,b,c,d}, Peter Nai Yuh Ye^{a,c,d}, Yoke Wang Cheng^{a,c,d}, Changlei Xia^{b,c}, Wan Adhiah Wan Mahari^a, Rock Keyi Liew^a, Wanxi Peng^a, Tong-Qi Yuan^a, Meisam Tahatabaei^{a,b,c,d}, Mortaza Aghbashlo^a, Christian Some^e, Su Shiang Lam^{a,b,c,d}

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Renewable and Sustainable Energy Reviews (Q1, IF: 14.982, Citations: 15)

Machine learning technology in biodiesel research: A review

Mortaza Aghbashlo^{a,b,c}, Wanxi Peng^{a,b}, Meisam Tahatabaei^{a,b,c,d}, Soteris A. Kalogirou^e, Salman Soltanian^f, Homa Hosseinzadeh-Bandbafha^g, Omid Mahian^h, Su Shiang Lam^{a,b,c,d}

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Progress in Energy and Combustion Science (Q1, IF: 29.394, Citations: 6)

Long Review paper

Fractionation and extraction of bio-oil for production of greener fuel and value-added chemicals: Recent advances and future prospects

Yi Heng Chan^a, Sob Kheng Loh^a, Bridgid Lai Fui Chin^a, Chung Loong Yim^b, Bing Shen How^a, Kin Wai Cheah^a, Mee Kwe Wong^a, Adrian Chun Minh Loy^a, Yong Jiang Gwee^a, Shirleen Lee Yuen Lo^a, Suzana Yusup^c, Su Shiang Lam^a

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Chemical Engineering Journal (Q1, IF: 13.273, Citations: 15)

Valorization of municipal wastes using co-pyrolysis for green energy production, energy security, and environmental sustainability: A review

Wan Adhiah Wan Mahari^{a,b,c}, Elifna Azwar^{b,c}, Shin Ying Foong^{b,c}, Ashfaq Ahmed^d, Wanxi Peng^a, Meisam Tahatabaei^{a,b,c,d}, Mortaza Aghbashlo^a, Young-Kwon Park^e, Christian Some^f, Su Shiang Lam^{a,b,c,d}

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Chemical Engineering Journal (Q1, IF: 13.273, Citation: 1)

Short Review paper

Bioresour Technol 428 (2021) 124299

Contents lists available at ScienceDirect

Bioresour Technology

journal homepage: www.elsevier.com/locate/biortech

Review

Progress in waste valorization using advanced pyrolysis techniques for hydrogen and gaseous fuel production

Shin Ying Foong^{a,b,1}, Yi Heng Chan^{c,1}, Wai Yan Cheah^{d,1}, Noor Haziqah Kamaludin^d, Tengku Nizam Buzara Tengku Ibrahim^e, Christian Sonne^f, Wansi Peng^g, Pau-Loke Show^h, Su Shihung Lam^h

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HIGHLIGHTS

- We review the current pyrolysis technology for hydrogen and gas fuel production.
- Advanced pyrolysis is promising for sustainable hydrogen and gas fuel production.
- Microwave and solar pyrolysis are energy efficient among the advanced pyrolysis.
- CO₂ pyrolysis is an alternative carbon capture technique of producing CO₂-rich syngas.
- More understanding of the reaction mechanism and process parameters is needed.

ARTICLE INFO

Keywords: Hydrogen and gaseous fuel; Distilled from waste; Heat up processing; Alternative processes for the production of renewable and sustainable fuels to substitute chemical fossil energy resources that cause global

Bioresource Technology (Q1, IF: 9.642, Citations: 7)

Environmental Chemistry Letters (2021) 19:2127–2140
<https://doi.org/10.1007/s10311-020-01177-5>

REVIEW

Gasification of refuse-derived fuel from municipal solid waste for energy production: a review

Yan Yang^{1,2}, Rock Key Liew^{2,3,4}, Anandaru Muthalilar Tamathran⁵, Shin Ying Foong², Peter Nai Yuh Yek^{2,4}, Poh Wai Chia¹, Thuan Van Tran⁴, Wansi Peng^{1,2}, Su Shihung Lam^{2,1}

Received: 10 December 2020 / Accepted: 28 December 2020 / Published online: 13 January 2021
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Abstract
Diminishing fossil fuels and improper waste management are major challenges in the context of increasing population and industrialization, calling for new waste-to-energy sources. For instance, refuse-derived fuels can be produced from transformation of municipal solid waste, which is forecasted to reach 2.6 billion metric tonnes in 2030. Gasification is a thermal-induced chemical reaction that produces gaseous fuel such as hydrogen and syngas. Here, we review refuse-derived fuel gasification with focus on practices in various countries, recent progress in gasification, gasification modeling and economic analysis. We found that some countries that replace coal by refuse-derived fuel reduce CO₂ emission by 40%, and decrease the amount municipal solid waste being sent to landfill by more than 50%. The production cost of energy via refuse-derived fuel gasification is estimated at 0.05 USD/kWh. Co-gasification by using two feedstocks appears more beneficial over conventional gasification in terms of minimum tar formation and improved process efficiency.

Keywords Refuse-derived fuel · Waste-to-energy · Gasification · Co-gasification · Hydrogen · Municipal solid waste · Fossil fuel · Economic analysis · Resources recovery · Syngas

Environmental Chemistry Letters
(Q1, IF: 9.027, Citations: 4)

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Short Review paper

Journal of Hazardous Materials 409 (2021) 123336

Contents lists available at ScienceDirect

Journal of Hazardous Materials

journal homepage: www.elsevier.com/locate/jhazmat

A review on valorization of oyster mushroom and waste generated in the mushroom cultivation industry

Wan Adilah Wan Mahar^{a,b,1}, Wansi Peng^{a,1}, Wai Lun Nam^{a,1}, Han Yang^{a,1}, Xie Yi Luo^a, Yik Kin Lee^a, Rock Key Liew^a, Nyuk Ling Ma^a, Agilah Mohammad^a, Christian Sonne^c, Qiyun Yan Le^d, Pau Loke Show^e, Wei-Hsin Chen^f, Su Shihung Lam^g

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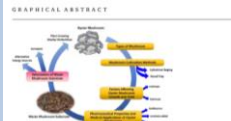
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GRAPHICAL ABSTRACT



Journal of Hazardous Materials (Q1, IF: 10.588, Citations: 6)

Journal of Hazardous Materials 409 (2021) 123336

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Journal of Hazardous Materials

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A recent global review of hazardous chlorpyrifos pesticide in fruit and vegetables: Prevalence, remediation and actions needed

Shin Ying Foong^{a,b,1}, Nyuk Ling Ma^{a,c,1}, Su Shihung Lam^{a,b,1}, Wansi Peng^a, Felicia Low^d, Bernard H.K. Lee^e, Ange K.O. Aitrop^f, Christian Sonne^g

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GRAPHICAL ABSTRACT



Journal of Hazardous Materials
(Q1, IF: 10.588, Citations: 13)

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Mini Review paper

Science of the Total Environment 776 (2021) 148802

Contents lists available at ScienceDirect

Science of the Total Environment


journal homepage: www.elsevier.com/locate/scitotenv

Set sustainable goals for the Arctic gateway coordinated international governance is required to resist yet another tipping point

Su Shiang Lam ^{a,b,1}, Shin Ying Foong ^{b,1}, Bernard H.K. Lee ^b, Felicia Low ^b, Aage K.O. Alstrup ^c, Yong Sik Ok ^d, Wanxi Peng ^{e,f,g}, Christian Sonne ^{e,f,g,h}

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GRAPHICAL ABSTRACT



Science of the Total Environment (Q1, IF: 7.963)

Environmental Research 191 (2020) 110046

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journal homepage: www.elsevier.com/locate/environres

A review of historical and recent locust outbreaks: Links to global warming, food security and mitigation strategies

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ARTICLE INFO

Keywords:
 Locust
 Climate
 Agriculture
 Sustainability
 Food security
 Prevention

ABSTRACT

Locusts differ from ordinary grasshoppers in their ability to swarm over long distances and are among the oldest adversary pests. The ecology and biology of locusts make them among the most devastating pests worldwide and hence the calls for action to prevent the next outbreaks. The food destructive of all locust species is the desert locust (*Schistocerca gregaria*). Here, we review the recent locust epidemic 2020 outbreak and its causes and prevention including the green technologies that may provide a reference for future directions of locust control and food security. Massive locust outbreaks threaten the terrestrial environments and crop production in around 100 countries in which Ethiopia, Somalia and Kenya are the most affected. Six large locust outbreaks are reported for the period from 1912 to 1999 all being closely related to long-term droughts and warm winters coupled with occurrence of high precipitation in spring and summer. The outbreaks in East Africa, India and Pakistan are the

Environmental Research (Q1, IF: 6.498, Citations: 7)

Science of the Total Environment (Q1, IF: 7.963, Citations: 3)

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Opinion/ Note

Trends in Ecology & Evolution

Opinion

Emerging contaminants and biological effects in Arctic wildlife

Christian Sonne ^{a,1,2,*}, Rune Dietz ^{1,3,4}, Bjorn Munro Jørgensen ^{1,3,4}, Su Shiang Lam ^{5,6} and Robert J. Letcher ⁶

Recent advances in environmental analytical chemistry have identified the presence of a large number of chemicals of emerging Arctic concerns (CEACs) being transported long range to the region. There has been very limited temporal monitoring of CEACs and it is therefore unknown whether they are of increasing or decreasing concern. Likewise, information on potential biological adverse effects from CEACs on Arctic wildlife is lacking compared with legacy persistent organic pollutants (POPs) found at levels associated with health effects in marine mammals. Hence, there is a need to monitor CEACs, along with POPs to support risk and regulatory CEAC assessments. We suggest pan-Arctic temporal trend studies of CEACs in wildlife including the establishment of toxicity thresholds to evaluate their potential effects on populations, biodiversity, and ecosystem services.

Highlights

Industrial chemicals have been present in the Arctic for decades and levels are still high in Arctic biota, particularly in top predators, despite national and international laws and regulation.

New and replacement chemicals are being produced in high volumes, a growing number of these are being detected in Arctic biota including wildlife and are chemicals of emerging Arctic concern (CEACs).

Trends in Ecology & Evolution, (Q1, IF: 17.712)

Science of the Total Environment 772 (2020) 148801

Contents lists available at ScienceDirect

Science of the Total Environment

journal homepage: www.elsevier.com/locate/scitotenv

Deforestation of rainforests requires active use of UN's Sustainable Development Goals

Wan Adibah Wan Mahari ^{a,b,1}, Effina Arzwar ^{a,1}, Yiyang Li ^{a,1}, Yacheng Wang ^{a,1}, Wanxi Peng ^{a,1}, Nyuk Ling Ma ^a, Han Yang ^a, Jorg Rinklebe ^{d,e,f,g}, Su Shiang Lam ^{b,c,d,e,f,g}, Christian Sonne ^{e,f,g,h}

^a Hainan Province Environmental Collaborative Lab of Green Bioeconomy (HBCB), Hainan Agricultural University, Zhongshan 450002, China
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^d Aarhus University Hospital, Department of Public Health and Field Epidemiology, 8000 Aarhus C, Denmark
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^f Department of Environment, Energy and Climatology, Spang University, Seoul 02090, Republic of Korea
^g Aarhus University, Department of Bioscience, Arctic Research Center (ARC), Frohdebjergvej 399, PO Box 258, DK-8400, Aalborg, Denmark

HIGHLIGHTS

- Removing and burning rainforests affect climate, health, biodiversity and socio-economics.
- This requires a sustainable regulation of the region's resources.
- The management of forests sustainably by open access at least eight of the 17 UN SDGs.
- An active use of the UN SDGs may lead to Good Environmental Status and reduce poverty.
- An international system that enhances this should be set up.

GRAPHICAL ABSTRACT



Science of the Total Environment (Q1, IF: 7.963, Citations: 3)

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Reviewer for Journal

<https://publons.com/researcher/1438933/su-shiung-lam/peer-review/>

Journal Title	IF
Progress in Energy and Combustion Science	29.394
Trends in Biotechnology	19.536
Renewable and Sustainable Energy Reviews	14.982
Chemical Engineering Journal	13.273
Critical Reviews in Environmental Science & Technology	12.561
Water Research	11.236
Journal of Hazardous Materials	10.588
Resources, Conservation & Recycling	10.204
Applied Energy	9.746
Energy Conversion and Management	9.709
Bioresource Technology	9.642
Environment International	9.621
Journal of Cleaner Production	9.297
Composites Part B: Engineering	9.078
ACS Sustainable Chemistry & Engineering	8.198
Environmental Science: Nano	8.131
Environmental Pollution	8.071
Energy	7.147

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WHY PUBLISH ?

If your research is not published in a journal it does not exist.

It must be possible to find it !!

Prof Gustaf Olsson
Editor-in-Chief
Water Science & Technology



Source: Zaini Ujang, VC, UTM, Presentation on academic writing, February, 2010

Research isn't complete until it's published.
If research isn't shared, it's as if the research hadn't been done.

Work, finish, publish

(Michael Faraday)



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VALUE OF UNPUBLISHED WORK

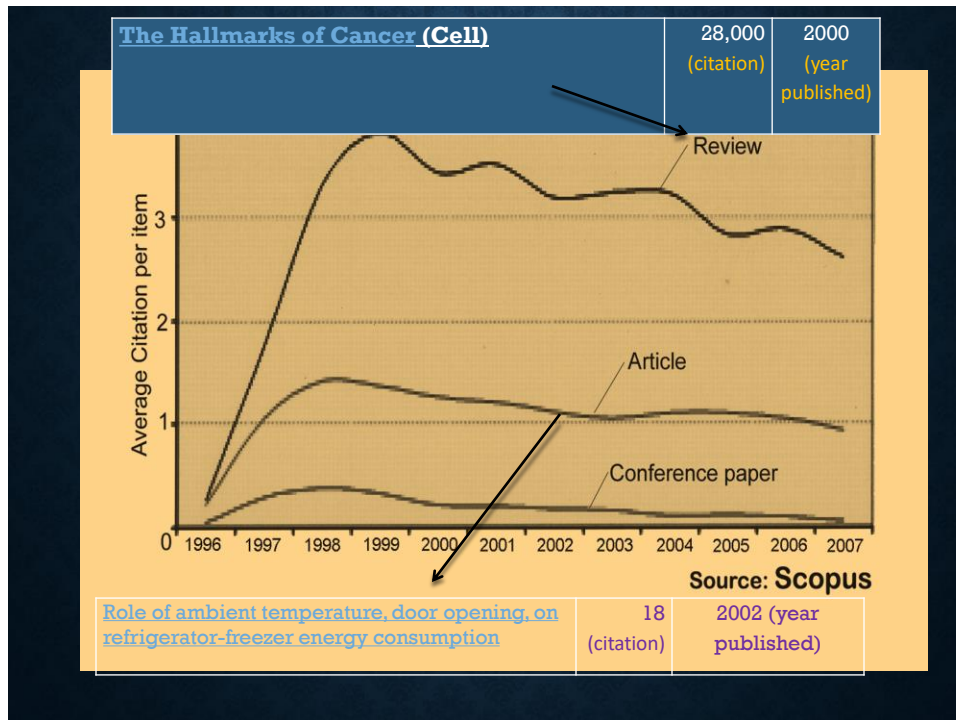
- **Who benefits?**
 - Possibly, person who did the work (?)
 - Nobody
- **Who is disadvantaged?**
 - Other researchers
 - Funding body



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WHY REVIEW PAPERS?

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CITATION TREND OF MY REVIEW PAPERS

Publication titles	Total citations	Year published
A review on waste to energy processes using microwave pyrolysis	184	2012
Progress in waste oil to sustainable energy, with emphasis on pyrolysis techniques	166	2016
Valorization of biomass waste to engineered activated biochar by microwave pyrolysis: Progress, challenges, and future directions	111	2020
Progress in biomass gasification technique - With focus on Malaysian palm biomass for syngas production	85	2016
Transformation of biomass into carbon nanofiber for supercapacitor application – A review	74	2018
A critical review of the effects of pretreatment methods on the exergetic aspects of lignocellulosic biofuels	41	2020
Recent technologies for treatment and recycling of used disposable baby diapers	33	2019
Sustainable biofuel and bioenergy production from biomass waste residues using microwave-assisted heating: A comprehensive review	21	2021
Progress in microwave pyrolysis conversion of agricultural waste to value-added biofuels: A batch to continuous approach	15	2021

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Citation of review articles

Title of article	Journal name	Publication year	Total citations
Biodiesel production: a review	Bioresource Technology	1999	6334
Hydrolysis of lignocellulosic materials for ethanol production: a review	Bioresource Technology	2002	5652
Removal of heavy metal ions from wastewaters: A review	J. Envi. Management	2011	3336
Recent developments in Life Cycle Assessment	J. Envi. Management	2009	1955
Science and technology of novel processes for deep desulfurization of oil refinery streams: a review	Fuel	2003	1542

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Citation of review articles: Civil Engineering

Title of article	Journal name	Publication year	Total citations
Vibration based condition monitoring: A review	Structural health monitoring	2004	1027
Neural networks in civil engineering: 1989-2000	Computer-aided civil and infrastructure engineering	2001	443
Review of NDT methods in the assessment of concrete and masonry structures	NDT & E INTERNATIONAL	2001	453

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SCIENCE: CHEMISTRY/MATERIALS

Title of article	Journal name	Publication year	Total citations
The surface science of titanium dioxide	Surface Science Reports	2003	6927
TiO₂ photocatalysis and related surface phenomena	Surface Science Reports	2008	4562
A review of chitin and chitosan applications	Reactive and Functional Polymers	2000	5046
Recent developments in cathode materials for lithium ion batteries	Journal of Power Sources	2010	1210
Science and technology of novel processes for deep desulfurization of oil refinery streams: a review	Fuel	2003	1542

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Biochemistry, Genetics and Molecular Biology

Title of article	Journal name	Publication year	Total citations
<u>Hallmarks of Cancer: The Next Generation</u>	Cell	2011	28930
<u>Synthesis and surface engineering of iron oxide nanoparticles for biomedical applications</u>	Biomaterials	2005	5765
<u>MicroRNAs - Genomics, Biogenesis, Mechanism, and Function</u>	cell	2004	27111

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Physics and Astronomy

Title of article	Journal name	Publication year	Total citations
<u>Complex networks: Structure and dynamics</u>	Physics report	2006	8122
<u>Raman spectroscopy in graphene</u>	Physics report	2009	3008
<u>Community detection in graphs</u>	Physics report	2010	6521

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WHY CITATION IS SO IMPORTANT?

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IMPORTANCE OF CITATIONS

- An indicator of IMPACT (usefulness)
- Very important ranking criteria

Citations per faculty (20%)

- Become internationally recognized researcher
- Need for promotion
- Highly cited authors/rewarding (e.g. plenary/keynote/invited speaker, contribute book chapter, joint review paper, grant application, etc)

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WHAT IS A REVIEW PAPER?

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what is a review paper?

May review almost anything, typically recent work

Designed to summarize, analyze, evaluate, or synthesize information that has already been published

Must be general/broad

No one has reported before

No original work



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HOW TO WRITE A REVIEW PAPER?

35

What is a literature review?

- A description of your topic area, supported by references (Own and others work)
- A summary, discussion and critical analysis of academic work related to your research question



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STRUCTURE OF A MANUSCRIPT

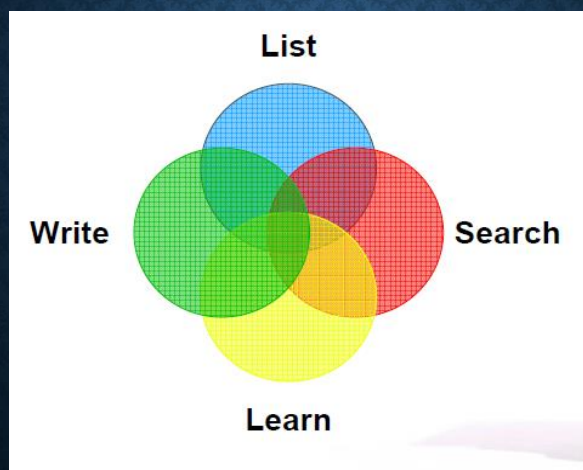
- Title and author (s)
- Abstract
- Keywords
- Nomenclatures
- TOC
- Introduction
- Literature review
- Main body (Building your story)
- Tables/Figures (Number, quality, redundancy, legend, ...)
- Conclusions
- Acknowledgements (If any)
- References
 - Format/style
 - Types (Journals, books, reports, conference proceedings)
 - Number?
- Appendix

How many pages?
How many references?

Best way to get a similar
published papers on the topic

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Literature review as a process



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TITLE

- Tell readers what your paper is all about
- The title of the manuscript needs to be short and relevant to the subject matter
- Attract the reader's attention
- General/broad for larger audience
- Avoid jargon and abbreviations

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Examples of good title



1. Progress in waste valorization using advanced pyrolysis techniques for hydrogen and gaseous fuel production
2. Progress in microwave pyrolysis conversion of agricultural waste to value-added biofuels: A batch to continuous approach
3. A review on valorization of oyster mushroom and waste generated in the mushroom cultivation industry

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Examples of good title



4. Emerging contaminants and biological effects in Arctic wildlife
5. A review of historical and recent locust outbreaks: Links to global warming, food security and mitigation strategies
6. Machine learning technology in biodiesel research: A review

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Author (s) names

- Author names and affiliations should be in the following format.

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a) Pyrolysis Technology Research Group, Higher Institution Centre of Excellence (HICoE), Institute of Tropical Aquaculture and Fisheries (AKUATROP), Universiti Malaysia Terengganu, 21030 Kuala Nerus, Terengganu, Malaysia

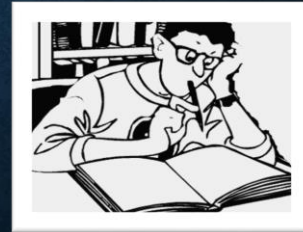
Email: lam@umt.edu.my

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Abstract

Tell readers what you did and the important findings

- The abstract should be *short and precise* giving clear indication of what investigation has been described in the manuscript and the precise conclusion to entice/attract the journal editors/readers.
- It is the summary of the work
- About *200-300 words* should be sufficient.



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Ge, S., Yek, P.N.Y., Cheng, Y.W., Xia, C., Wan Mahari, W.A., Liew, R.K., Peng, W., Yuan, T.Q., Tabatabaei, M., Aghbashi, M., Sonne, C., **Lam, S.S.*** 2021. Progress in microwave pyrolysis conversion of agricultural waste to value-added biofuels: A batch to continuous approach. *Renewable and Sustainable Energy Reviews*, 135. (DOI: 10.1016/j.rser.2020.110148).

Q1, IF 12.110, Published: 2021

ABSTRACT

Microwave pyrolysis (MP) has emerged as a promising technique to valorize agricultural wastes (AW) into biofuels, comprising biochar, bio-oil, and syngas. To fill the research gap, we review the state-of-the-art MP conversion of AW into value-added biofuels, including the influence of feedstock composition, new reactor designs, operating conditions, catalytic applications, and reaction mechanisms. The techno-economic and environmental impacts are discussed together with key implications for future development. Microwave valorization of AW to biofuels represents an economically viable cum environmentally-benign approach by virtue of (i) high availability of AW, (ii) scalable process, (iii) great potentiality for continuous operation, and (iv) thermochemical process with positive energy ratio. For continuous MP, the microwave heating distribution, products yield, and reactor design have not yet fully explored due to the limited understanding on microwave propagation pattern, materials handling, and varying feedstock compositions. The utilization of AW as biofuels feedstock offers several environmental advantages in terms of improved biomass utilization, enhanced carbon sequestration, and lower sulphur emission. The toxicity of bio-oil can be reduced by adding metal oxide catalysts (CaO, CuO, MgO, and NiO) to lessen its content of polycyclic aromatic hydrocarbons. The process of continuous MP can be optimized by coupling shaftless auger and multiple magnetron to improve the quality of the biofuel, and uniformity of microwave heating. It is envisaged that continuous conversion of AW to biofuels is a sustainable, low carbon footprint, and alternative energy generation route, provided that the appropriate catalyst, effective condenser, and self-purging condition are chosen.

Background

Objective

Methods

Main findings

Conclusion

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Keywords

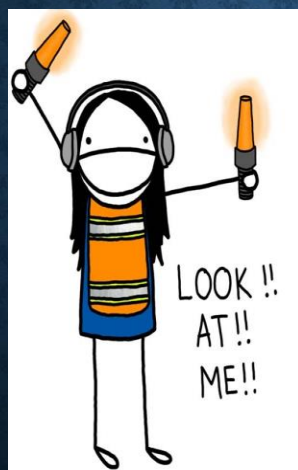


Used by indexing and abstracting services:

- They are the labels of your manuscript
- The keywords should *reflect the subject matter* of the manuscript in the same way the title of the manuscript should.
- As such most of the keywords may already be *present in the title*.
- The number of keywords should not be more than *five*.
- Use only established abbreviations (i.e. DNA)

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INTRODUCTION



Needs to get readers attention

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Cite/give credit to others work



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Introduction

Provide context to convince readers that you clearly know why your work is important

- The introduction section should contain *brief statement* of the need for the investigation, review of up to date literature and specific objectives.
- This section should reflect the new contents of the review

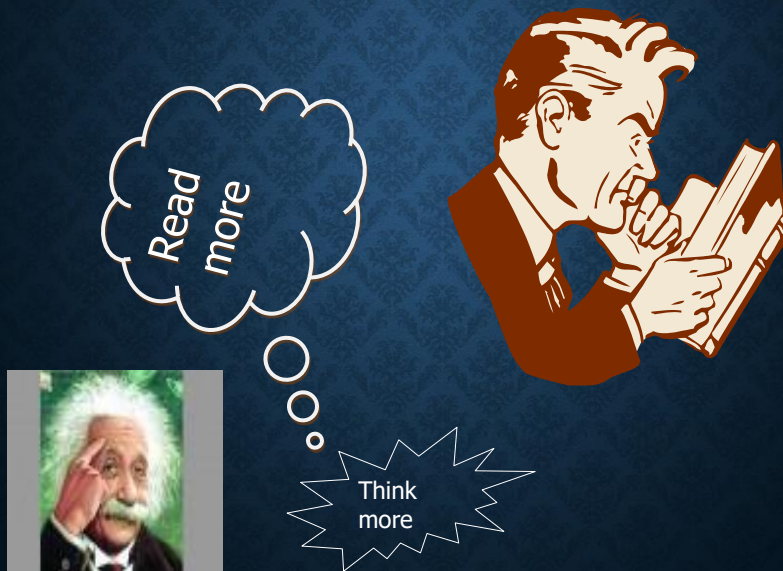
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INTRODUCTION

Too long
Too general/does not reflect content
No objectives/Objectives are not clear/achievable/measurable
Not focused
Novelty is not highlighted
Latest/ relevant literature

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HOW TO GENERATE NEW IDEA





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Common mistakes




Too lengthy

Nash's PhD thesis

27 pages long

Won him a Nobel prize



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Examples in addressing originality (Review paper)

The authors of the paper cited in reference [8] have briefly discussed various solar PV panel cooling technologies.

However, only a few technologies were introduced while the main focus of the paper was on the testing and performance of a developed Ground-Coupled Central Panel Cooling System (GC-CPCS).

In reference [9], the authors presented an overview of various methods that can be employed for cooling photovoltaic cells.

However, when looking closely, it can be seen that the focus of the paper was only on examining the passive, forced air and liquid forced convection cooling methods applied to different solar concentrator systems.

Unlike the above-mentioned review studies, this paper provides a comprehensive review of how different technologies can be used to minimize the negative effects of increased temperature, while trying to improve the performance of a PV panel operating beyond the recommended temperature of the Standard Test Conditions (STC).

Taken from;

Renewable and Sustainable Energy Reviews 79 (2017) 192–203

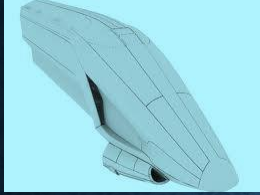
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SOURCES OF LITERATURE

- ScienDirect
- IEEE explore
- Springer
- Taylor and Francis
- Multiscience
- Inderscience
- Wiley
- Yahoo, Google search (put key words)
- Scopus
- Engineering Village
- Pro-quest-digital dissertation
- Ingentaconnect
- Personal communications
- Etc...



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MAIN BODY



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TIPS

Depending on the level of expertise and experiences

- one can write a reviewer paper as short as 4-6 pages even with 5-10 references
- It can be up to 100 pages with 300-500 references

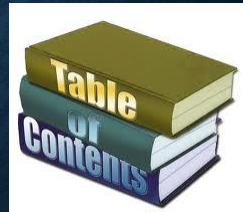


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TIPS

- Its quite easy to publish in some Journals
- However, its really very difficult in some journals
- Prepare a Table of Content

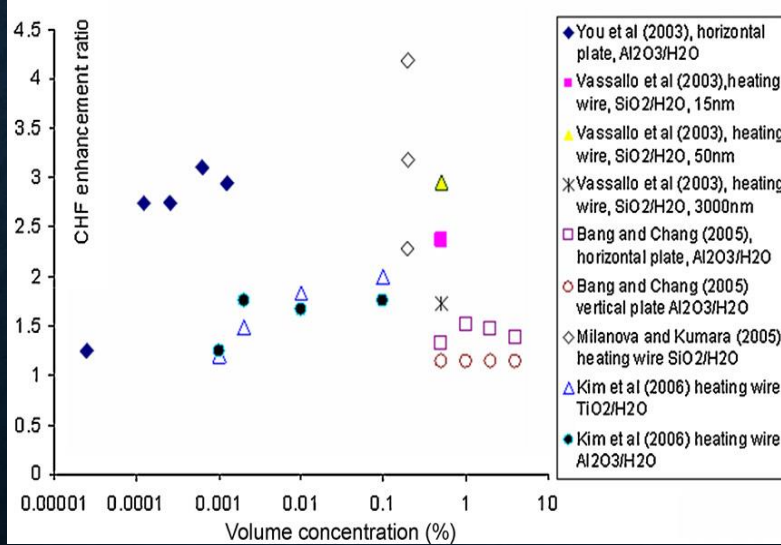


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Critical review/Key
features

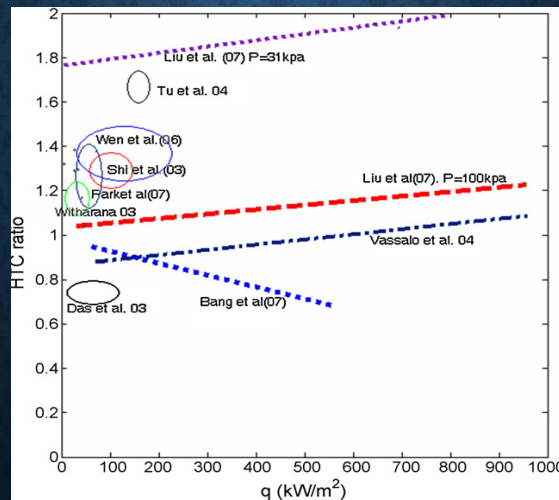
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Example review Figure



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Example review Figure



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Table 2

Solar pyrolysis for gaseous fuel production.

Feedstock	Investigated parameter and range				Reactor type and scale	Gas yield	Syngas composition/yield				Reference	
	Temperature	Heating rate	Sweeping gas flow rate	Particle size			Reaction time	H ₂	CO	CH ₄		C ₂ H ₄
Beech wood	800-2000 °C	50-450 °C/s	4-8 nlpm (Argon)	10 mm × 5 mm (pellet)	5 min	1.5 kW vertical solar furnace	23.0-74.6 wt% of wood	1.8-20.9 mol/kg of wood	5.2-21.2 mol/kg of wood	nd	nd	(Zeng et al., 2015)
Chicken litter waste	800-1600 °C	10-500 °C/s	9 nlpm (Argon)	250 µm	5 min	1.5 kW lab-scale solar furnace	10-39 wt%	29-46 mol%	26-40 mol%	4-24 mol%	0-5 mol%	(Waldelidan et al., 2020)
Rice husk	800-1600 °C	10-500 °C/s	9 nlpm (Argon)	200 µm & 500 µm	5 min	1.5 kW lab-scale solar furnace	<ul style="list-style-type: none"> For 200 µm: 12-39 wt% For 500 µm: 20-37 wt% 	<ul style="list-style-type: none"> For 200 µm: 13-50 mol% For 500 µm: 19-41 mol% 	<ul style="list-style-type: none"> For 200 µm: 44-50 mol% For 500 µm: 43-50 mol% 	<ul style="list-style-type: none"> For 200 µm: 5-12 mol% For 500 µm: 4-14 mol% 	<ul style="list-style-type: none"> For 200 µm: 0-3 mol% For 500 µm: 0-4 mol% 	(Waldelidan et al., 2020)
Algal biomass (E. compressa)	250-600 °C	20-100 °C/min	3-15 L/min (Nitrogen)	<0.5-2.5 mm	60 min	1.4 kW vertical solar furnace	12-59 wt%	0.16-12.1 mol/kg	1.9-12.9 mol/kg	0.2-1.7 mol/kg	0-0.56 mol/kg	(Zeng et al., 2019)
Willow wood	600-1600 °C	10, 50 °C/s	9 nlpm (Argon)	0.5-1 mm	5 min	1.5 kW vertical solar furnace	10.6-47.0 wt%	0.3-12.2 mol/kg	2.0-14.0 mol/kg	0.3-2.0 mol/kg	0-0.72 mol/kg	(Zeng et al., 2019)
Cu/willow wood	600-1600 °C	10, 50 °C/s	9 nlpm (Argon)	0.5-1 mm	5 min	1.5 kW vertical solar furnace	10.6-47.0 wt%	0.3-12.2 mol/kg	2.0-14.0 mol/kg	0.3-2.0 mol/kg	0-0.72 mol/kg	(Zeng et al., 2019)
Ni/willow wood	600-1600 °C	10, 50 °C/s	9 nlpm (Argon)	0.5-1 mm	5 min	1.5 kW vertical solar furnace	16.0-47.5 wt%	2.3-11.2 mol/kg	3.8-13.7 mol/kg	0.6-1.9 mol/kg	0-0.56 mol/kg	(Zeng et al., 2019)
Pine sawdust	800-2000 °C	10-150 °C/s	6 nlpm (Argon)	100 µm	5 min	Vertical solar furnace	29.4-63.5 wt%	24.44 mol%	46-52 mol%	4-10 mol%	2-3 mol%	(Li et al., 2016)
Peach pit	800-2000 °C	10-150 °C/s	6 nlpm (Argon)	100 µm	5 min	Vertical solar furnace	20-55 wt%	23-46 mol%	43-47 mol%	5-14 mol%	2-4 mol%	(Li et al., 2016)
Grape stalk	800-2000 °C	10-150 °C/s	6 nlpm (Argon)	100 µm	5 min	Vertical solar furnace	20-55 wt%	42-51 mol%	11-43 mol%	4-26 mol%	2-5 mol%	(Li et al., 2016)
Grape marc	800-2000 °C	10-150 °C/s	6 nlpm (Argon)	100 µm	5 min	Vertical solar furnace	20-55 wt%	49-50 v	32-45 mol%	1-6 mol%	1-4 mol%	(Li et al., 2016)

*nd: not disclosed.

Foong, S.Y., Chan, Y.H., Cheah, W.Y., Kamaludin, N.H., Tengku Ibrahim, T.N.B., Sonne, C., Peng, W., Show, P.L., Lam, S.S. 2021. Progress in waste valorization using advanced pyrolysis techniques for hydrogen and gaseous fuel production. **Bioresource Technology**, 320. Q1, IF : 7.539

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Table 6

Key findings on fractionation and extraction of bio-oil using other methods.

Method	Feedstock	Element	Species isolated	Purity/yield	Observations	Reference		
Column chromatography	Bi-oil from sewage sludge via fast pyrolysis	Binary mixture of n-hexane, ethyl acetate or and methanol	Aromatic organic (nitrogen species, alkanenitriles (C13-C18), oleofurfin, lactams and amides)	Yield: 5-10%	Eight stages of elution	[99]		
	Bi-oil from rice husk via fast pyrolysis	<ul style="list-style-type: none"> Ethyl acetate, ethanol Petroleum ether 	Phthalate esters	Purity: 62.59-89.63%	Bi-oil was treated via bioification-acidification process, followed by water dilution prior to chromatography separation.	[100]		
	Bi-oil from wheat stalk via ethanolysis	Benzene:Carbon disulfide (CS ₂):1:1	<ul style="list-style-type: none"> C8-C20 alkanes Phenols Acetophenone 	Purity: 97.66% (C8-C20 alkanes), 100% (phenols), 71.2% (acetophenone)	Bi-oil underwent multiple stages of organic solvent extraction prior to chromatography separation.	[101]		
Method	Feedstock	Parameters investigated	Species isolated	Concentration in feed	Retention factor	Observations	Reference	
Reverse Osmosis (RO) Flat Sheet Membrane	Green pine wood via fast pyrolysis	<ul style="list-style-type: none"> Pressure: 1 MPa Temperature: 21 °C Flow configuration: Cross flow 	<ul style="list-style-type: none"> Glucose Total sugar 	<ul style="list-style-type: none"> 15.09 wt% (glucose) 24.97 wt% (total sugar) 	<ul style="list-style-type: none"> 85% (glucose) 67% (total sugar) 	Extraction step using butanol and ethyl acetate before membrane separation were tested to improve membrane performance. With removal phenolic and other lignin degradation compounds, increased permeate flux (86 to 156 kg/m ² /h) and reduced fouling (25 to 13.7) were recorded.	[102]	
Nanofiltration (NF) and Reverse Osmosis (RO) Flat Sheet Membranes	Model aqueous fraction of bio-oil (AFBO)	<ul style="list-style-type: none"> Pressure: 4-5.8 MPa Flow configuration: Cross flow 	<ul style="list-style-type: none"> Glucose Acetic acid Hydroxyacetone Furfural 	<ul style="list-style-type: none"> 15 wt% (glucose) 7 wt% (acetic acid) 4.65 wt% (hydroxyacetone) 2.3 wt% (furfural) 	<ul style="list-style-type: none"> 82.1% (glucose) 16.7% (acetic acid) 15.9% (hydroxyacetone) 35.8% (furfural) 	Glucose and phenol in model AFBO caused irreversible damage to the membranes.	[103]	
Method	Feedstock	Parameters investigated	Species isolated	Concentration in feed	% removed	Observations	Reference	
Electroextraction	Bi-oil from switchgrass via intermediate pyrolysis	<ul style="list-style-type: none"> Potential: 1.4 V Electroextraction time: 2 h Regeneration: 20 min 	<ul style="list-style-type: none"> Acetate Propionate 	<ul style="list-style-type: none"> 3.2-32.5 mM (acetate) 0.4-54.8 mM (propionate) 	<ul style="list-style-type: none"> 77% (acetate) 27% (propionate) 	Prior to capacitive deionization (CDI), bio-oil was treated with water dilution at different ratios. The acids (acetate and propionate) level removal was more effective on the bio-oil of a higher water dilution factors due to the limited ion capacity of the electrodes.	[104]	
Method	Feedstock	IL	Parameters investigated	Species isolated	Concentration in feed	Extraction rate	Observations	Reference
Liquid-liquid extraction by ionic liquid (IL)	Bi-oil from organosolv lignin via pyrolysis	[Choline][NTf ₂]	Ratio of IL to aqueous phase: 0.5:1, pH 6	<ul style="list-style-type: none"> Phenol Cresol Guaiacol Syringol Acetophenone 	<ul style="list-style-type: none"> 18 wt% (phenol) 8 wt% (cresol) 17 wt% (guaiacol) 5 wt% (syringol) 11 wt% (acetophenone) 	<ul style="list-style-type: none"> 78% (phenol) 88% (cresol) 82% (guaiacol) 80% (syringol) 78% (acetophenone) 	IL showed superior extraction rate in two stages compared to ethyl acetate, which requires four stages.	[105]
	Model aqueous fraction of bio-oil	<ul style="list-style-type: none"> P₁₁₁₁, Cl⁻, P₁₄₁₄, dN (CN₄)⁻ P₁₄₁₄[Phos], Hmin [B(CN)₄], Octain[B (CN)₄] 	<ul style="list-style-type: none"> Ratio of IL to aqueous phase: 1:1 Temperature: 25-60 °C 	<ul style="list-style-type: none"> Acetic acid Acetol Glycolaldehyde 	<ul style="list-style-type: none"> 10 wt% (acetic acid) 10 wt% (acetol) 5 wt% (glycolaldehyde) 	<ul style="list-style-type: none"> 92% (acetic acid) 47% (acetol) 52% (glycolaldehyde) 	Phosphonium IIs showed the highest extraction efficiency for acetic acid and glycolaldehyde, with reasonable affinity for acetal.	[106]

Chan, Y.H., Loh, S.K., Chin, B.L.F., Yiin, C.L., How, B.S., Cheah, K.W., Wong, M.K., Loy, A.C.M., Gwee, Y.L., Lo, S.L.Y., Yusup, S., Lam, S.S. 2020. Fractionation and extraction of bio-oil for production of greener fuel and value-added chemicals: Recent advances and future prospects. **Chemical Engineering Journal**, 397, 125406. Q1, IF: 10.652

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Conclusions

- The conclusions section should contain *short and precise* concluding remarks arising out of the investigation.
- Only the *very important points* should be included in this section.
- It is the concrete achievement/findings of the work
- Should highlight the achievements of objectives

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Conclusions

5. Conclusion

This review presents various advanced pyrolysis techniques as potential routes to produce hydrogen and gaseous fuel. Current technologies and waste feedstock used in hydrogen and gaseous fuel production as found in the scientific literature showed that there are six types of advanced pyrolysis technologies and the key parameters that influence gas yield and composition are revealed. These key parameters are type of feedstock, reaction temperature, carrier gas flow rate and feedstock size. Challenge and future direction of advanced pyrolysis technologies have also been discussed to improve the yield and quality of hydrogen and gaseous products.

Foong, S.Y., Chan, Y.H., Cheah, W.Y., Kamaludin, N.H., Tengku Ibrahim, T.N.B., Sonne, C., Peng, W., Show, P.L., Lam, S.S. 2021. Progress in waste valorization using advanced pyrolysis techniques for hydrogen and gaseous fuel production. **Bioresource Technology**, 320. **Q1, IF : 7.539**

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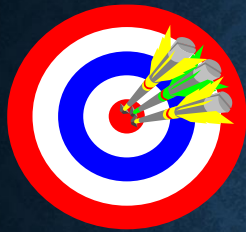
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STEP BY STEP PROCEDURE TO WRITE A REVIEW PAPER

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WHERE TO PUBLISH

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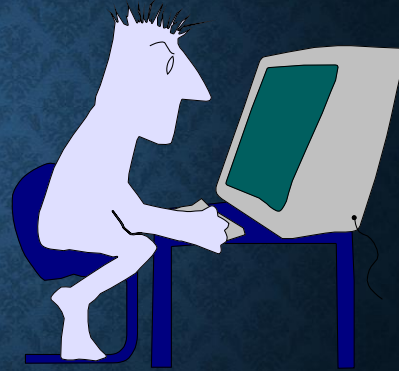
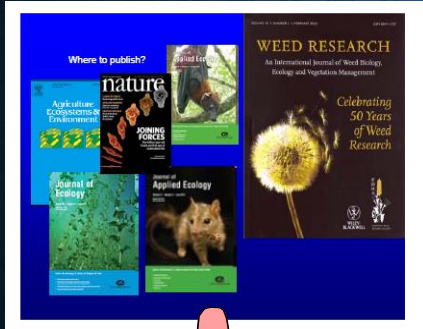


Time



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WHERE TO PUBLISH



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IMPACT FACTORS



"My question is: Are we making an impact?"

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TOP NOTCH JOURNALS

- The New England Journal of Medicine: IF 94.245
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- Science: IF 47.728
- Cell : IF 41.582
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Impact Factor: 13.273 (2020), 11.529 (5 year)

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ISSN: 1385-8947
eISSN: 1879-3023
Research Domain: Engineering

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Article history:

Received 16 March 2009

Accepted 29 April 2009

Available online 28 May 2009



Time

73

A R T I C L E I N F O

Article history:

Received 12 March 2010

Accepted 21 November 2010

Available online 5 January 2011



Time

74

Bioresource Technology 320 (2021) 124299

Contents lists available at ScienceDirect

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Review

Progress in waste valorization using advanced pyrolysis techniques for hydrogen and gaseous fuel production

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Where to publish?

- See publication history
- Get experiences by publishing in diverse group journals
- Some journals even initially reject
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- Invite international experts to make team stronger
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Applied Energy, Volume 88, Issue 4, April 2011, Pages 981-1007
 Wang, Y.; Chen, K.S.; Mishler, J.; Cho, S.C.; Adroher, X.C.
 [2] Cited by SciVerse Scopus (8)
2. **A review on biodiesel production using catalyzed transesterification** * Review article
Applied Energy, Volume 87, Issue 4, April 2010, Pages 1083-1095
 Leung, D.Y.C.; Wu, X.; Leung, M.K.H.
 [2] Cited by SciVerse Scopus (54)
3. **Biofuels from algae for sustainable development**
Applied Energy, Volume 88, Issue 10, October 2011, Pages 3473-3480
 Demirbas, M.F.
 [2] Cited by SciVerse Scopus (1)
4. **Competitive liquid biofuels from biomass** * Review article
Applied Energy, Volume 88, Issue 1, January 2011, Pages 17-28
 Demirbas, A.
 [2] Cited by SciVerse Scopus (15)
5. **Biodiesel production by microalgal biotechnology** * Review article
Applied Energy, Volume 87, Issue 1, January 2010, Pages 38-46
 Huang, G.; Chen, F.; Wei, D.; Zhang, X.; Chen, G.
 [2] Cited by SciVerse Scopus (60)
6. **Advances and perspectives in using microalgae to produce biodiesel**
Applied Energy, Volume 88, Issue 10, October 2011, Pages 3402-3410
 Amaro, H.M.; Guedes, A.C.; Malcata, F.X.
 [2] Cited by SciVerse Scopus (3)
7. **Opportunities and challenges for biodiesel fuel** * Review article
Applied Energy, Volume 88, Issue 4, April 2011, Pages 1020-1031
 Lin, L.; Cunshan, Z.; Vittayapadung, S.; Xiangqian, S.; Mingdong, D.
 [2] Cited by SciVerse Scopus (7)
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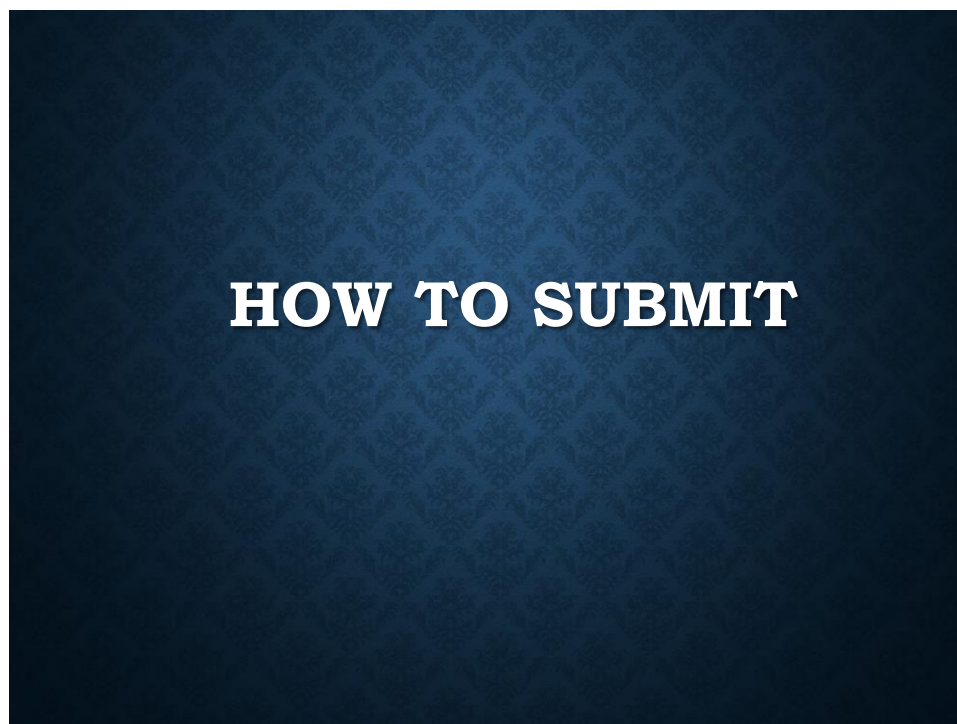
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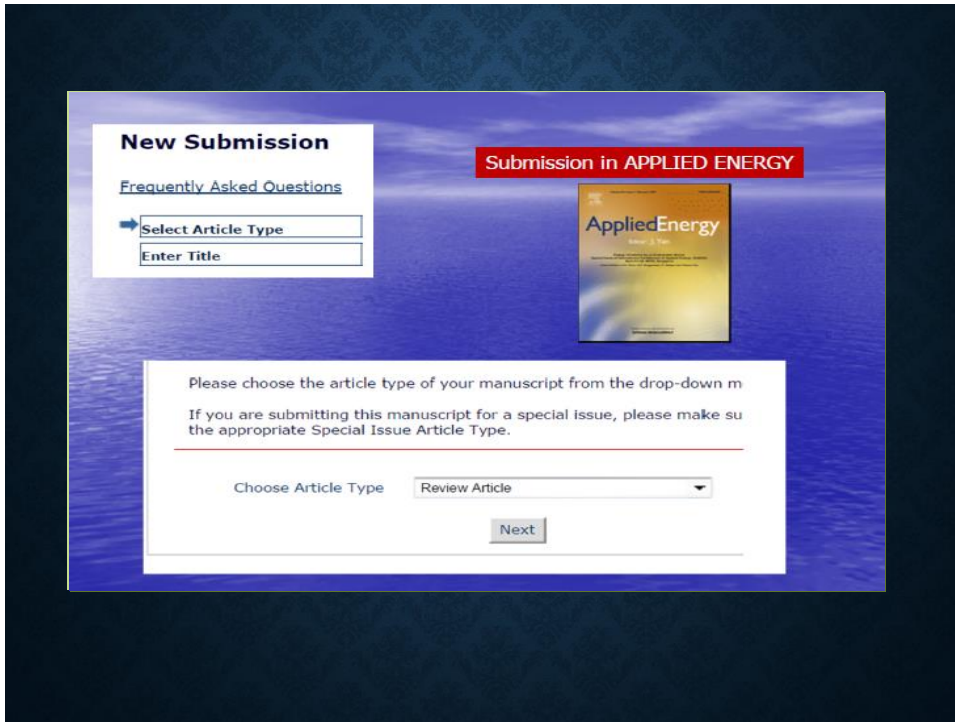
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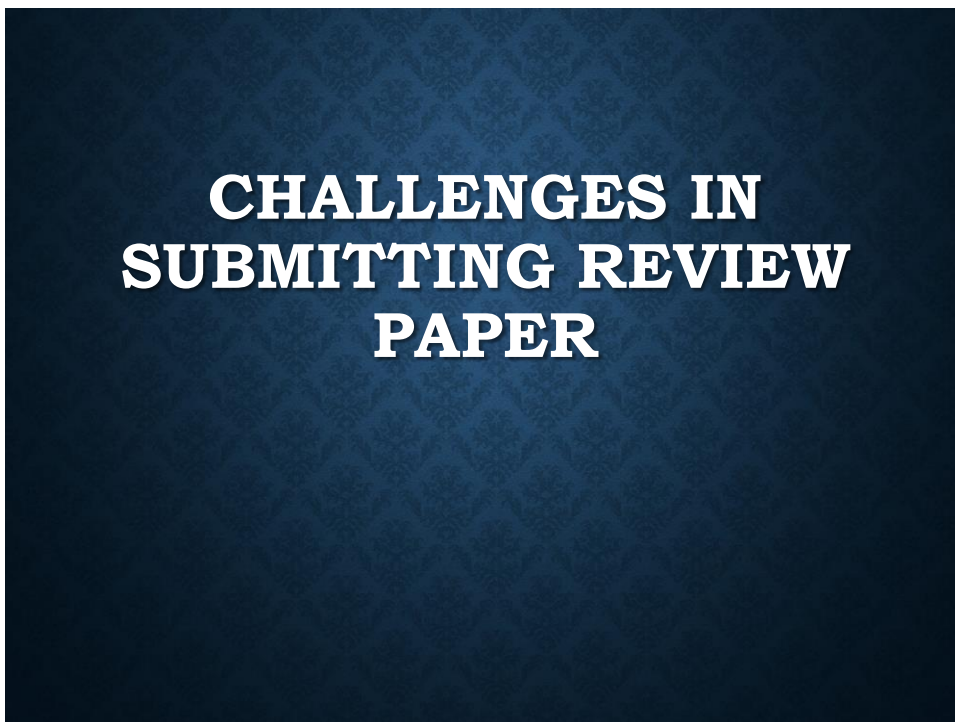
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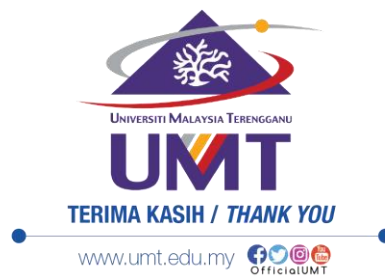


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WHATS ARE CHALLENGES

- Need to be steadfast, patient, never give up
- Sometimes rejected after submission of many times in different journals
- Challenging comments from editors/reviewers
- Identify alternatives
- Lack of expertise

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