

## Pertanika Journal

*Our goal is to bring high-quality research to the widest possible audience*

### INSTRUCTIONS TO AUTHORS

#### MANUSCRIPT FORMAT

Generally, each **Research article** is **not to exceed 6000 words** and **review article not more than 8000 words** (excluding the abstract, references, tables, and/or figures), a maximum of **80 references**, and **an abstract of less than 250 words**.

The paper should be submitted in **one-column format** with 1.5 line spacing throughout. Authors are advised to use Times New Roman 12-point font and *MS Word* format.

#### 1. **Manuscript Structure**

The manuscripts, in general, should be organised in the following order:

- **Page 1: Running title**

This page should **only** contain the running title of your paper. The running title is an abbreviated title used as the running head on every page of the manuscript. The running title **should not exceed 60 characters, counting letters and spaces**.

- **Page 2: Author(s) and Corresponding author's information**

**General information:** This page should contain the **full title** of your paper **not exceeding 25 words**, with the name of all the authors, institutions and corresponding author's name, institution and full address (Street address, telephone number (including extension), handphone number, and e-mail address) for editorial correspondence. **The corresponding author must be clearly indicated with a superscripted asterisk symbol (\*)**.

**Authors' name:** The names of the authors should be named in **full without academic titles**. For Asian (Chinese, Korean, Japanese, Vietnamese), please write first name and middle name before surname (family name). The last name in the sequence is considered the surname.

**Authors' addresses:** Multiple authors with different addresses must indicate their respective addresses separately by superscript numbers.

**Tables/figures list:** A list of the number of **black and white/colour figures and tables** should also be indicated on this page. See **"5. Figures & Photographs"** for details.

*Example (page 2):*

#### **Fast and Robust Diagnostic Technique for the Detection of High Leverage Points**

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*List of Table*

*Table 1.*

*List of Figure*

*Figure 1.*

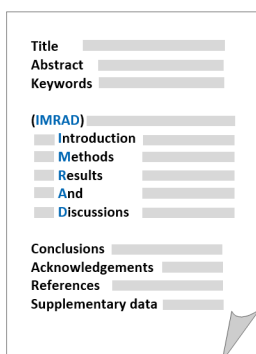
- **Page 3: Abstract**

This page should **repeat** the **full title** of your paper with only the **Abstract**, usually in one paragraph and **Keywords**.

*Keywords: Not more than 8 keywords in alphabetical order* must be provided to describe the content of the manuscript.

- **Page 4: Text**

A regular paper should be prepared with the headings *Introduction, Materials and Methods, Results and Discussions, Conclusions, Acknowledgements, References, and Supplementary data* (if any) in this order. The literature review may be part of or separated from the *Introduction*.



#### MAKE YOUR ARTICLES AS CONCISE AS POSSIBLE

Most scientific papers are prepared according to a format called IMRAD. The term represents the first letters of the words Introduction, Materials and Methods, Results, And, Discussion. It indicates a pattern or format rather than a complete list of headings or components of research papers; the missing parts of a paper are: Title, Authors, Keywords, Abstract, Conclusions, and References. Additionally, some papers include Acknowledgments and Appendices.

The Introduction explains the scope and objective of the study in the light of current knowledge on the subject; the Materials and Methods describes how the study was conducted; the Results section reports what was found in the study; and the Discussion section explains meaning and significance of the results and provides suggestions for future directions of research. The manuscript must be prepared according to the Journal's instructions to authors.

## 2. Levels of Heading

Level of heading	Format
1 <sup>st</sup>	<b>LEFT, BOLD, UPPERCASE</b>
2 <sup>nd</sup>	<b>Flush left, Bold, Capitalise each word</b>
3 <sup>rd</sup>	<b>Bold, Capitalise each word, ending with .</b>
4 <sup>th</sup>	<b>Bold italic, Capitalise each word, ending with .</b>

## 3. Equations and Formulae

These must be set up clearly and should be typed double-spaced. Numbers identifying equations should be in square brackets and placed on the right margin of the text.

## 4. Tables

- All tables should be prepared in a form consistent with recent issues of *Pertanika* and should be numbered consecutively with Roman numerals (Table 1, Table 2).
- A brief title should be provided, which should be shown at the top of each table (**APA format**):

Example: Table 1

*PVY infected Nicotiana tabacum plants optical density in ELISA*

- Explanatory material should be given in the table legends and footnotes.
- Each table should be prepared on a new page, embedded in the manuscript.
- Authors are advised to keep backup files of all tables.

**\*\* Please submit all tables in Microsoft word format only, because tables submitted as image data cannot be edited for publication and are usually in low-resolution.**

## 5. Figures & Photographs

- Submit an **original** figure or photograph.
- Line drawings must be clear, with a high black and white contrast.

- Each figure or photograph should be prepared on a new page, embedded in the manuscript for reviewing to keep the file of the manuscript under 5 MB.
- These should be numbered consecutively with Roman numerals (Figure 1, Figure 2).
- Provide a brief title, which should be shown at the bottom of each table (**APA format**):

*Example: Figure 1. PVY-infected in vitro callus of Nicotiana tabacum*

- If a figure has been previously published, acknowledge the original source, and submit written permission from the copyright holder to reproduce the material.
- Authors are advised to keep backup files of all figures.

**\*\* Figures or photographs must also be submitted separately as TIFF or JPEG, because figures or photographs submitted in low-resolution embedded in the manuscript cannot be accepted for publication. For electronic figures, create your figures using applications that are capable of preparing high-resolution TIFF files.**

## 6. Acknowledgement

Any individuals and entities who have contributed to the research should be acknowledged appropriately.

## 7. References

- References begin on their own page and are listed in alphabetical order by the first author's last name. Only references cited within the text should be included. All references should be in 12-point font and double-spaced.
- If a Digital Object Identifier (DOI) is listed on a print or electronic source, it is required to include the DOI in the reference list. Use Crossref to find a DOI using author and title information.

**NOTE:** When formatting your references, please follow the **APA-reference style** (7th edition) (refer to the examples). Ensure that the references are strictly in the journal's prescribed style, failing which your article will **not be accepted for peer-review**. You may refer to the *Publication Manual of the American Psychological Association* (<https://apastyle.apa.org/>) for further details.

Examples of reference style are given below:

### Books

Books	Insertion in Text	In Reference List
Book/E-Book with 1-2 authors	<p><b>Information prominent' (the author's name is within parentheses):</b></p> <p>... (Starron, 2020)</p> <p>... (Darus &amp; Rasdi, 2019)</p> <p>... Or</p> <p><b>'Author prominent' (the author's name is outside the parentheses):</b></p> <p>(Starron, 2020)...</p> <p>Darus and Rasdi (2019) ...</p>	<p>Starron, M. (2020). <i>Action research in software engineering</i>. Springer International Publishing. <a href="https://doi.org/10.1007/978-3-030-32610-4">https://doi.org/10.1007/978-3-030-32610-4</a></p> <p>Darus, A., &amp; Rasdi, I. (2019). <i>Introduction to occupational health a workbook</i>. UPM Press.</p>
Book/E-Book with 3 or more authors	<p><i>For all in-text references, list only the first author's family name and followed by 'et al.'</i></p> <p><b>Information prominent' (the author's name is within parentheses):</b></p> <p>... (Yusof et al., 2020)</p> <p>... Or</p> <p><b>'Author prominent' (the author's name is outside the parentheses):</b></p> <p>Yusof et al. (2020) ...</p>	<p>Yusof, N. A., Azmi, U. Z. M., Ariffin, N., &amp; Rahman, S. F. A. (2020). <i>Biosensors and chemical sensors: A practical approach</i>. UPM Press.</p>

Books	Insertion in Text	In Reference List
Book/E-Book with more than 20 authors		For books with more than 20 authors, please follow the guidelines for journal articles with more than 20 authors.
Chapter in an edited Book/E-Book	<p><b>Information prominent' (the author's name is within parentheses):</b></p> <p>... (Mainzer, 2020) ...</p> <p>... (Tang et al., 2020) ...</p> <p>Or</p> <p><b>'Author prominent' (the author's name is outside the parentheses):</b></p> <p>Mainzer (2020) ...</p> <p>Tang et al. (2020) ...</p>	<p>Mainzer, K. (2020). Logical thinking becomes automatic. In K. Mainzer (Ed.), <i>Artificial intelligence-When do machines take over?</i> (pp 15-45). Springer. <a href="https://doi.org/10.1007/978-3-662-59717-0_3">https://doi.org/10.1007/978-3-662-59717-0_3</a></p> <p>Tang, W., Khavarian, M., Yousefi, A., &amp; Cui, H (2020). Properties of self-compacting concrete with recycled concrete aggregates. In R. Siddique (Ed.), <i>Self-Compacting Concrete: Materials Properties, and Applications</i> (pp. 219-248) Woodhead Publishing <a href="https://doi.org/10.1016/B978-0-12-817369-5.00009-X">https://doi.org/10.1016/B978-0-12-817369-5.00009-X</a></p>
Editor	<p><b>Information prominent' (the author's name is within parentheses):</b></p> <p>... (Kesharwani, 2020) ...</p> <p>... (Lanza et al., 2020) ...</p> <p>Or</p> <p><b>'Author prominent' (the author's name is outside the parentheses):</b></p> <p>Kesharwani (2020) ...</p> <p>Lanza et al. (2020) ...</p>	<p>Kesharwani, P. (Ed.). (2020). <i>Nanotechnology based approaches for tuberculosis treatment</i>. Academic Press.</p> <p>Lanza, R., Langer, R., Vacanti, J. P., &amp; Atala, A. (Eds.). (2020). <i>Principles of tissue engineering</i>. Academic press. <a href="https://doi.org/10.1016/C2018-0-03818-9">https://doi.org/10.1016/C2018-0-03818-9</a></p>
Several works by the same author in the same year	<p><b>Information prominent' (the author's name is within parentheses):</b></p> <p>... (Aggarwal &amp; Aggarwal, 2020a, 2020b) ...</p> <p>Or</p> <p><b>'Author prominent' (the author's name is outside the parentheses):</b></p> <p>Aggarwal &amp; Aggarwal (2020a, 2020b) ...</p>	<p>Aggarwal, P., &amp; Aggarwal, Y. (2020a). Strength properties of SCC. In R. Siddique (Ed.), <i>Self-Compacting Concrete: Materials, Properties, and Applications</i> (p. 83-115). Woodhead Publishing. doi: <a href="https://doi.org/10.1016/B978-0-12-817369-5.00004-0">https://doi.org/10.1016/B978-0-12-817369-5.00004-0</a></p> <p>Aggarwal, P., &amp; Aggarwal, Y. (2020b). Carbonation and corrosion of SCC. In R. Siddique (Ed.), <i>Self-Compacting Concrete: Materials, Properties, and Applications</i> (p. 147-193). Woodhead Publishing. doi: <a href="https://doi.org/10.1016/B978-0-12-817369-5.00007-6">https://doi.org/10.1016/B978-0-12-817369-5.00007-6</a></p>

## Journals

Journals	Insertion in Text	In Reference List
Journal article with 1-2 authors	<p><b>Information prominent' (the author's name is within parentheses):</b></p> <p>... (Laan &amp; Fox, 2019) ...</p> <p>Or</p> <p><b>'Author prominent' (the author's name is outside the parentheses):</b></p> <p>Laan and Fox (2019) ...</p>	<p>Laan, E., &amp; Fox, J. W. (2019). An experimental test of the effects of dispersal and the paradox of enrichment on metapopulation persistence. <i>Oikos</i>, 129(1), 49-58. <a href="https://doi.org/10.1111/oik.06552">https://doi.org/10.1111/oik.06552</a></p>
Journal article with 3 or more authors	<p><i>For all in-text references, list only the first author's family name and followed by 'et al.'</i></p> <p><b>Information prominent' (the author's name is within parentheses):</b></p> <p>... (Midi et al., 2020) ...</p> <p>... (Shagufta et al., 2017) ...</p> <p>Or</p> <p><b>'Author prominent' (the author's name is outside the parentheses):</b></p> <p>Midi et al. (2020) ...</p> <p>Shagufta et al. (2017) ...</p>	<p>Midi, H., Hendi, H. T., Arasan, J., &amp; Uraibi, H. (2020). Fast and Robust Diagnostic Technique for the Detection of High Leverage Points. <i>Pertanika Journal of Science &amp; Technology</i>, 28(4), 1203-1220.</p> <p>Shagufta, B., Sivakumar, M., Kumar, S., Agarwal, R. K., Bhilegaonkar, K. N., Kumar, A., &amp; Dubal, Z. B. (2017). Antimicrobial resistance and typing of Salmonella isolated from street vended foods and associated environment. <i>Journal of Food Science and Technology</i>, 54(8), 2532-2539. doi: <a href="https://doi.org/10.1007/s13197-017-2698-1">https://doi.org/10.1007/s13197-017-2698-1</a></p>
Journal article with more than 20	<p><b>Information prominent' (the author's name is within parentheses):</b></p> <p>... (Wiskunde et al., 2019) ...</p> <p>Or</p> <p><b>'Author prominent' (the author's name is outside the parentheses):</b></p> <p>Wiskunde et al. (2019) ...</p>	<p>Wiskunde, B., Arslan, M., Fischer, P., Nowak, L., Van den Berg, O., Coetzee, L., Juárez, U., Riyaziyyat, E., Wang, C., Zhang, I., Li, P., Yang, R., Kumar, B., Xu, A., Martínez, R., McIntosh, V., Ibáñez, L. M., Mäkinen, G., Virtanen, E., ... Kovács, A. (2019). Indie pop rocks mathematics: Twenty One Pilots, Nicolas Bourbaki, and the empty set. <i>Journal of Improbable Mathematics</i>, 27(1), 1935-1968. <a href="https://doi.org/10.0000/3mp7y-537">https://doi.org/10.0000/3mp7y-537</a></p>

<p>Journal article with an article number</p>	<p><b>Information prominent' (the author's name is within parentheses):</b></p> <p>... (Roe et al., 2020) ...</p> <p>Or</p> <p><b>'Author prominent' (the author's name is outside the parentheses):</b></p> <p>Roe et al. (2020) ...</p>	<p>Roe, E. T., Bies, A. J., Montgomery, R. D., Watterson, W. J., Parris, B., Boydston, C. R., Sereno, M. E., &amp; Taylor, R. P. (2020). Fractal solar panels: Optimizing aesthetic and electrical performances. <i>Plos One</i>, 15(3), Article e0229945. <a href="https://doi.org/10.1371/journal.pone.0229945">https://doi.org/10.1371/journal.pone.0229945</a></p>
<p>Journal article with missing information</p>	<p><b>Information prominent' (the author's name is within parentheses):</b></p> <p>... (Alfirevic et al., 2017) ...</p> <p>... (Hayat et al., 2020) ...</p> <p>... (Fan et al., 2020) ...</p> <p>Or</p> <p><b>'Author prominent' (the author's name is outside the parentheses):</b></p> <p>Alfirevic et al. (2017) ...</p> <p>Hayat et al. (2020) ...</p> <p>Fan et al. (2020) ...</p>	<p><b>Missing volume number</b></p> <p>Alfirevic, Z., Stampalija, T., &amp; Dowswell, T. (2017). Fetal and umbilical Doppler ultrasound in high-risk pregnancies (review). <i>Cochrane Database of Systematic Reviews</i>, (6), 1-163. <a href="https://doi.org/10.1002/14651858.CD007529.pub4">https://doi.org/10.1002/14651858.CD007529.pub4</a>. Copyri ght</p> <p><b>Missing issue number</b></p> <p>Hayat, A., Shaishta, N., Mane, S. K. B., Hayat, A., Khan, J., Rehman, A. U., &amp; Li, T. (2020). Molecular engineering of polymeric carbon nitride based Donor-Acceptor conjugated copolymers for enhanced photocatalytic full water splitting. <i>Journal of colloid and interface science</i>, 560, 743-754. <a href="https://doi.org/10.1016/j.jcis.2019.10.088">https://doi.org/10.1016/j.jcis.2019.10.088</a></p> <p><b>Missing page or article number</b></p> <p>Fan, R. G., Wang, Y. B., Luo, M., Zhang, Y. Q., &amp; Zhu, C. P. (2020). SEIR-Based COVID-19 Transmission Model and Inflection Point Prediction Analysis. <i>Dianzi Keji Daxue Xuebao/Journal of the University of Electronic Science and Technology of China</i>, 49 (3). <a href="https://doi.org/10.12178/1001-0548.9_2020029">https://doi.org/10.12178/1001-0548.9_2020029</a></p>
<p>Several works by the same author in the same year</p>	<p><b>Information prominent' (the author's name is within parentheses):</b></p> <p>... (Chee et al., 2019a, 2019b) ...</p> <p>Or</p> <p><b>'Author prominent' (the author's name is outside the parentheses):</b></p> <p>Chee et al. (2019a, 2019b) ...</p>	<p>Chee, S. S., Jawaid, M., Sultan, M. T. H., Alothman, O. Y., &amp; Abdullah, L. C. (2019a). Accelerated weathering and soil burial effects on colour, biodegradability and thermal properties of bamboo/kenaf/epoxy hybrid composites. <i>Polymer Testing</i>, 79, Article 106054. <a href="https://doi.org/10.1016/j.polymeresting.2019.106054">https://doi.org/10.1016/j.polymeresting.2019.106054</a></p> <p>Chee, S. S., Jawaid, M., Sultan, M. T. H., Alothman, O. Y., &amp; Abdullah, L. C. (2019b). Evaluation of the hybridization effect on the thermal and thermo-oxidative stability of bamboo/kenaf/epoxy hybrid composites. <i>Journal of Thermal Analysis and Calorimetry</i>, 137(1), 55-63. <a href="https://doi.org/10.1007/s10973-018-7918-z">https://doi.org/10.1007/s10973-018-7918-z</a></p>

## Newspapers

Newspapers	Insertion in Text	In Reference List
Newspaper article – with an author	... (Shamshuddin, 2019) ... Or ... Shamshuddin (2019) ...	Shamshuddin, J. (2019, September 23). Lynas plant waste residue can be used to boost oil palm growth? <i>New Straits Times</i> . <a href="https://www.nst.com.my/opinion/letters/2019/09/523930/lynas-plant-waste-residue-can-be-used-boost-oil-palm-growth">https://www.nst.com.my/opinion/letters/2019/09/523930/lynas-plant-waste-residue-can-be-used-boost-oil-palm-growth</a>
Newspaper article – without an author	("Zoonotic viruses," 2017). OR "Zoonotic viruses" (2017) ...  Use a shortened title (or full title if it is short) in Headline Case enclosed in double quotation marks.	Zoonotic viruses like swine flu are ticking time bombs, say experts. (2020, July 4). <i>New Straits Times</i> , 3.

## Dissertation/Thesis

Dissertation/Thesis	Insertion in Text	In Reference List
Published Dissertation or Thesis References	... (Rivera, 2016) ... Or ... Rivera (2016) ...	Rivera, C. (2016). <i>Disaster risk management and climate change adaptation in urban contexts: Integration and challenges</i> [Doctoral dissertation, Lund University]. Lund University Publications. <a href="https://lup.lub.lu.se/search/ws/files/5471705/8570923.pdf">https://lup.lub.lu.se/search/ws/files/5471705/8570923.pdf</a>
Unpublished Dissertation or Thesis References	... (Brooks, 2014) ... Or ... Brooks (2014) ...	Brooks, J. D. (2015). <i>Bamboo as a strengthening agent in concrete beams for medium height structures</i> [Unpublished Doctoral dissertation]. The University of Washington.

### Conference/Seminar Papers

Conference/Seminar Papers	Insertion in Text	In Reference List
Conference proceedings published in a journal	... (Duckworth et al., 2019) ... Or Duckworth et al. (2019) ...	Duckworth, A. L., Quirk, A., Gallop, R., Hoyle, R. H., Kelly, D. R., & Matthews, M. D. (2019). Cognitive and noncognitive predictors of success. <i>Proceedings of the National Academy of Sciences, USA</i> , 116(47), 23499-23504. <a href="https://doi.org/10.1073/pnas.1910510116">https://doi.org/10.1073/pnas.1910510116</a>
Conference proceedings published as a book chapter	... (Bedenel et al., 2019) ... Or Bedenel et al. (2019) ...	Bedenel, A. L., Jourdan, L., & Biernacki, C. (2019). Probability estimation by an adapted genetic algorithm in web insurance. In R. Battiti, M. Brunato, I. Kotsireas, & P. Pardalos (Eds.), <i>Lecture notes in computer science: Vol. 11353. Learning and intelligent optimization</i> (pp. 225-240). Springer. <a href="https://doi.org/10.1007/978-3-030-05348-2_21">https://doi.org/10.1007/978-3-030-05348-2_21</a>
Online	... (Gu et al., 2018) ... Or Gu et al. (2018) ...	Gu, X., Yu, J., Han, Y., Han, M., & Wei, L. (2019, July 12-14). <i>Vehicle lane change decision model based on random forest</i> . [Paper presentation]. 2019 IEEE International Conference on Power, Intelligent Computing and Systems (ICPICS), Shenyang, China. <a href="https://doi.org/10.1109/ICPICS47731.2019.8942520">https://doi.org/10.1109/ICPICS47731.2019.8942520</a>

### Government Publications

Government Publications	Insertion in Text	In Reference List
Government as author	<b>First in-text reference: Spell out the full name with the abbreviation of the body.</b> ... National Cancer Institute (2019) ... Or ... (National Cancer Institute, 2019) ...  <b>Subsequent in-text reference:</b> ... NCI (2019) ... Or ... (NCI, 2019) ...	National Cancer Institute. (2019). <i>Taking time: Support for people with cancer</i> (NIH Publication No. 18-2059). U.S. Department of Health and Human Services, National Institutes of Health. <a href="https://www.cancer.gov/publications/patient-education/takingtime.pdf">https://www.cancer.gov/publications/patient-education/takingtime.pdf</a>

## 8. General Guidelines

**Abbreviations:** Define alphabetically, other than abbreviations that can be used without definition. Words or phrases that are abbreviated in the *Introduction* and following text should be written out in full the first time that they appear in the text, with each abbreviated form in parenthesis. Include the common name or scientific name, or both, of animal and plant materials.

**Authors' Affiliation:** The primary affiliation for each author should be the institution where the majority of their work was done. If an author has subsequently moved to another institution, the current address may also be stated in the footer.



**Co-Authors:** The commonly accepted guideline for authorship is that one must have substantially contributed to the development of the paper and share accountability for the results. Researchers should decide who will be an author and what order they will be listed depending upon their order of importance to the study. Other contributions should be cited in the manuscript's *Acknowledgements*.

**Similarity Index:** All articles received must undergo the initial screening for originality before being sent for peer review. *Pertanika* does not accept any article with a similarity index exceeding **20%**.

**Copyright Permissions:** Authors should seek necessary permissions for quotations, artwork, boxes or tables taken from other publications or other freely available sources on the Internet before submission to *Pertanika*. The *Acknowledgement* must be given to the original source in the illustration legend, in a table footnote, or at the end of the quotation.

**Footnotes:** Current addresses of authors if different from heading may be inserted here.

**Page Numbering:** Every page of the manuscript, including the title page, references, and tables should be numbered.

**Spelling:** The journal uses American or British spelling and authors may follow the latest edition of the Oxford Advanced Learner's Dictionary for British spellings. Each manuscript should follow one type of spelling only.

#### Author-policy:

The selected papers must be from different geographical region and different institution (based on the main/corresponding author). Not more than 2 papers from same institution.

Permits up to a maximum of 3 manuscripts by the same author in one issue provided the author sequence differs in each manuscript. e.g.,

<u>Manuscript 1:</u> John, Jamal, Ibrahim & Wahid.	} • Same author cannot appear > 2 times as the 1 <sup>st</sup> author. • Same author may appear in 3 <sup>rd</sup> manuscript provided authorship sequence differs.
<u>Manuscript 2:</u> Jamal, John, Wahid & Ibrahim.	
<u>Manuscript 3:</u> Ibrahim, Jamal, John & Wahid.	

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Any queries may be directed to the **Chief Executive Editor's** office via email to [executive\\_editor.pertanika@upm.edu.my](mailto:executive_editor.pertanika@upm.edu.my)

