CODE OF ETHICS



Pertanika, the Official Journal of Universiti Putra Malaysia Established 1978

> POLICIES ON PUBLICATION ETHICS First Edition Published September, 2010

Dertanika's Code of Ethics



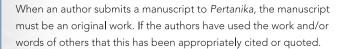
Pertanika Journals aspire to select and publish, through double-blind peer-review, the highest quality research globally. In order to achieve this goal, the entire peer-review and publication process should be thorough, objective and fair. Journal reputation depends heavily on this and in the fairness of the peer-review and publication process. A formal code of ethics, outlining guidelines for good behavior and proposing solutions to ethical dilemmas facing Authors, Editors and Reviewers, can build trust on Pertanika and improve journal reputation. With this goal in mind, the Pertanika Code of Ethics is designed to be a comprehensive policy for peer review and publication ethics.

Pertanika Authors, Editors and Reviewers are encouraged to study these guidelines and address any questions or concerns to the Pertanika's Executive Editor. These quidelines apply to manuscripts submitted to Pertanika effective 15 June 2010, and may be revised at any time by the Executive Editor or Editor-in-Chief.

I. Pertanika's Code of Ethics for Authors

Originality 1.1

Pertanika Journals aspire to select and publish, through double-blind peer-review, the highest quality research globally



If the manuscript contains materials that overlap with work that is previously published, that is in press, or that is under consideration for publication elsewhere, the Author must cite this work in the manuscript. The Author must also inform the Pertanika's Executive Editor of the related work and, if requested, send the manuscript to him.

Authors must **withdraw** papers that are under review with any other journal, if the paper is submitted to Pertanika subsequently.

Authors must explicitly cite their own earlier work and ideas, even when the work or ideas are not quoted verbatim or paraphrased in the manuscript. If exact sentences or paragraphs that appear in another work by the Author are included in the manuscript, the

material should be put in quotation marks and appropriately cited in a way that does not compromise the double-blind review process.

Authors should avoid excessively citing their earlier works in order to inflate their citation count. Authors should also avoid self-citation that might violate the double-blind review process. If self-identifying information is unavoidable, the Author should include the information in the manuscript's Acknowledgements (which are not forwarded to the Reviewers) and also inform Pertanika's Executive Editor.

Authors should not submit a manuscript to Pertanika that was previously submitted to Pertanika, sent out for review, and rejected after review by a Pertanika Editor. If an earlier version was previously rejected by Pertanika, and the author wishes to submit a revised version for review, this fact and the justification for resubmission should be clearly communicated by the author to the Pertanika Executive Editor at the time of submission.

It is strongly suggested that authors wishing to submit manuscripts for intending publication in Pertanika journals should check their manuscripts for possible plagiarism using any application program such as TurnItIn before submitting it to the Executive Editor, Pertanika Journals.

1.2 Plagiarism and Self-plagiarism

All work in the manuscript should be free of any plagiarism, falsification, fabrications, or omission of significant material.

Plagiarism takes many forms, from 'passing off' another's paper as the author's own paper, to copying or paraphrasing substantial parts of another's paper (without credit), to claiming results from research conducted by others.

Plagiarism is the use of others' published and unpublished ideas or words (or other intellectual property) without attribution or permission, and presenting them as new and original rather than derived from an existing source. The intent and effect of plagiarism is to mislead the reader as to the contributions of the



When an author submits a manuscript to Pertanika, the manuscript must be an original work

plagiarizer. This applies whether the ideas or words are taken from abstracts, research grant applications, Institutional Review Board applications, or unpublished or published manuscripts in any publication format (print or electronic).

Authors are expected to explicitly cite others' work and ideas, even if the work or ideas are not quoted verbatim or paraphrased. This standard applies whether the previous work is published, unpublished, or electronically available.

Self-plagiarism (or "redundancy") can occur in at least two ways:

- a. Authors recycle portions of their previous writings by using identical or nearly identical sentences or paragraphs from earlier writings in subsequent research papers, without quotation or acknowledgement; or
- b. Authors create multiple papers that are slight variations of each other, which are submitted for publication in different journals but without acknowledgement of the other papers.

Self-plagiarism is widespread and sometimes unintentional, as there are only so many ways to say the same thing on many occasions, particularly when writing the Methods section of an article. Although this usually violates the copyright that has been usually assigned to the publisher, there is no consensus as to whether this is a form of scientific misconduct, or how many of one's own words one can use before it is truly "plagiarism". Probably for this reason self-plagiarism is not generally regarded in the same light as plagiarism of the ideas and words of other individuals. Moreover, since publication decisions are influenced by the novelty and innovativeness of manuscripts, such deception is inappropriate and unethical. In actual fact this can be minimized or avoided by citing one's previous publications wherever necessary.

Authors should therefore **minimize** recycling of previous writings. If recycling is unavoidable, the author should inform the Executive Editor at the time of submission and reference the previous writings in the manuscript. Such self-referencing should be worded carefully so as to avoid compromising the double-blind review process.



All work in the manuscript should be free of any plagiarism, falsification, fabrications, or omission of significant material If exact sentences or paragraphs that appear in another work by the author are included in the manuscript, the material must be put in quotation marks and appropriately cited.

Plagiarism is scientific misconduct and in all its forms constitutes **unethical** publishing behavior which is **unacceptable**.

Tips for avoiding plagiarism

- Cite all your sources, whether you have read or heard them,
- Keep full records of every source of information you use including the date you accessed electronic resources,
- Place quotation marks around any words you copy verbatim and credit
- Use your own words when summarising or paraphrasing someone else's words - but don't forget - you will still need to reference it!
- Make sure you check with your Journal's staff which referencing system they want you to use.

Multiple Submissions 1.3

Multiple, Redundant or Concurrent Publication: An author should not in general publish manuscripts describing essentially the same research in more than one journal or primary publication. Submitting the same manuscript to more than one journal concurrently constitutes unethical publishing behavior and is unacceptable.

Authors must not submit to Pertanika the same work, in whole or in part, to two places of publication at the same time, or at any time while the manuscript is under review, or has been previously published. It is also improper for an Author to submit a manuscript describing essentially the same research to more than one place of publication, unless it is a resubmission of a manuscript rejected for, or withdrawn from publication. Thus, an author may not submit to Pertanika, a work that is in whole or in part under review elsewhere, nor submit to another publication outlet a work that is in whole or in part under review at Pertanika.

The manuscript must not have been previously published or accepted for publication elsewhere, either in whole (including book chapters) or in part (including paragraphs of text or exhibits), whether in English or another language.



Submitting the same manuscript to more than one journal concurrently constitutes unethical publishing behavior and is unacceptable



Policy on Conference Proceeding Papers

Pertanika does not accept any submission of papers that have been published in full in a conference proceeding as novelty is an important criterion in the selection of papers. However, to encourage interdisciplinary contributions, Pertanika may consider unpublished work that has been submitted or presented in part to a forum, particularly if it is unlikely to have been seen by more than a few members of a conference or where the circulation of the proceeding is limited. The author however must specify the dual submission and certifies that the journal submission contains significant material that is not included in the proceeding submission.

Conflicts of Interest 1.5

Authors should avoid conflicts of interest or the appearance of conflicts of interest throughout the research process. A conflict of interest is some fact known to a participant in the publication process that if revealed later, would make a reasonable reader feel misled or deceived (or an Author, Reviewer, or Editor feel defensive). Conflicts of interest may influence the judgment of Authors, Reviewers, and Editors. Possible conflicts often are not immediately apparent to others. They may be personal, commercial, political, academic, or financial. Financial interests may include employment, research funding (received or pending), stock or share ownership, patents, payment for lectures or travel, consultancies, non-financial support, or any fiduciary interest in the company. The perception of a conflict of interest is nearly as important as an actual conflict, since both erode trust. Any queries about possible conflicts of interest should be addressed to the Journal's Executive Editor or Editor-in-Chief

When submitting a manuscript to Pertanika, the Corresponding Author has the opportunity to recommend up to three possible potential Reviewers for the manuscript. The suggested reviewers must not be the Co-Authors listed in this manuscript and have not seen the manuscript before. The editors are not, however, bound by these suggestions.



The manuscript must not have been previously published or accepted for publication elsewhere, either in whole or in part whether in English or another language

Authors should avoid any possible conflict of interest, or appearance of conflict of interest, in selecting Editors and Reviewers. Such conflicts of interest apply not only to the Corresponding Author but to any Co-Authors on the manuscript.

Examples of possible conflicts of interest include:

- (i) One of the Authors is at the same institution as the nominated Editor or Reviewer:
- (ii) One of the Authors was a member of the Journal's Editorial Board: or
- (iii) One of the Authors, and the Editor or Reviewer, is currently Co-Authors on another manuscript.

Authors should not nominate individuals whom they know have already read and provided comments on the manuscript or a previous version of the manuscript since such knowledge would automatically violate the double-blind review process.

Co-Authorship 1.6

All Co-Authors of papers should have made significant contributions to the work and share accountability for the results. Authorship and credit should be shared in proportion to the various parties' contributions. Authors should take responsibility and credit, including authorship credit, only for work they have actually performed or to which they have contributed. Other contributions should be cited in the manuscript's

Acknowledgements or an endnote.

Authors should normally list a student as the principal Co-Author on multiple-authored publications that substantially derive from the student's dissertation or thesis.

Authors who analyze data from others should explicitly acknowledge the contribution of the initial researchers.

The Corresponding Author who submits a manuscript to Pertanika should have sent all living Co-Authors a draft and obtained their assent to submission and publication.



All Co-Authors of papers should have made significant contributions to the work and share accountability for the results

1.7 Timeliness

Authors should be prompt with their manuscript revisions. If an Author cannot meet the deadline given, the Author should contact the *Pertanika*'s Executive Editor as soon as possible to determine whether a longer time period or withdrawal from the review process should be chosen.

1.8 Manuscript Withdrawal

Authors may write to the Executive Editor requesting for a withdrawal of a manuscript that has been previously submitted for intended publication in *Pertanika*. However, manuscript withdrawal is only permitted **within two weeks** from the date it was initially submitted to *Pertanika*, or **prior** to the peer-review processes, whichever is earlier.

If the author withdraws his/her manuscript **after** the peer-review process has begun, *Pertanika* has the right to reject the paper without taking into account the status of the referee's evaluation.

II. Pertanika's Code of Ethics for Reviewers and Editors

2.1 Reciprocity

Reviewing for journals is a professional activity that provides value for the profession as a whole, and should be encouraged. Scholars who submit manuscripts to *Pertanika* are normally expected to reciprocate by accepting an invitation to review for the Journal.

2.2 Double-Blind Peer-Review

Pertanika follows a double-blind peer-review process, whereby authors do not know reviewers and vice versa. Peer review is fundamental to the scientific publication process and the dissemination of sound science. Peer reviewers are experts chosen



Pertanika follows a double-blind peer-review process by journal editors to provide written assessment of the strengths and weaknesses of written research, with the aim of improving the reporting of research and identifying the most appropriate and highest quality material for the journal.

Authors should respect the confidentiality of the review process and should not reveal themselves to Reviewers, and vice versa. For example, the manuscript should not include any self-revealing information that would identify the Author to a Reviewer.

Authors should not post their submitted manuscript (including working papers and prior drafts) on websites where it could be easily discovered by potential Reviewers.

If a Reviewer knows the identity of an Author or Co-Author, this would normally be grounds for refusal to review. Reviewers also have a responsibility to avoid writing, doing or saying anything that could identify them to an Author.

Authors should not nominate as Editor or Reviewer individuals whom they know have already read and provided comments on the manuscript or a previous version of the manuscript since such knowledge would automatically violate the double-blind review process.

Where articles appear in the Journal that were not double-blind reviewed, the standard of review should be clearly stated in the printed Acknowledgements accompanying the article. For example, an introductory article written by a Guest Editor for a Special Issue would normally be single-blind reviewed, and should be so identified when published.

Regular reviewers selected for the journal should be required to meet minimum standards regarding their background in original research, publication of articles, formal training, and previous critical appraisals of manuscripts.

Peer reviewers should be experts in the scientific topic addressed in the articles they review, and should be selected for their objectivity and scientific knowledge. Individuals who do not have such expertise cannot be reviewers, and there is no role for review



Authors should respect the confidentiality of the review process and should not reveal themselves to Reviewers, and vice versa

of articles by individuals who have a major competing interest in the subject of the article (e.g. those working for a company whose product was tested, its competitors, those with ideological agendas, etc.).

2.3 Review Quality

Manuscripts judged to be of potential interest to our readership are sent for review, typically to two or three reviewers, but sometimes more if special advice is needed (for example on statistics or a particular technique where an expert in that particular technique is needed to evaluate it). Authors may request that certain Reviewers not be used, but this decision should be left to the Executive Editor's or the Editor-in-Chief's discretion.

The Editor should routinely assess all reviews for quality. In rare circumstances, an Editor may edit a review before sending it to an Author (for example, to remove a phrase that would identify the Reviewer) or not send the review to the Author if it is not constructive or appropriate.

Ratings of review quality and other performance characteristics are periodically assessed by the *Pertanika's* Executive Editor to assure optimal journal performance. These ratings also contribute to decisions on reappointment to the *Pertanika* Editorial Board and to ongoing review requests. Individual performance data on Reviewers is available to the Editors but otherwise kept confidential.

Reviews are expected to be professional, honest, courteous, prompt, and constructive. The desired major elements of a high-quality review is as follows:

- The reviewer should have identified and commented on major strengths and weaknesses of the study design and methodology.
- b. The reviewer should comment accurately and constructively upon the quality of the author's interpretation of the data, including acknowledgment of its limitations.



Manuscripts judged to be of potential interest to our readership are sent for review, typically to two or three reviewers

- c. The reviewer should comment on major strengths and weaknesses of the manuscript as a written communication, independent of the design, methodology, results, and interpretation of the study.
- d. The reviewer should comment on any ethical concerns raised by the study, or any possible evidence of low standards of scientific conduct.
- e. The reviewer should provide the author with useful suggestions for improvement of the manuscript.
- f. The reviewer's comments to the author should be constructive and professional.
- g. The review should provide the editor the proper context and perspective to make a decision on acceptance (and/or revision) of the manuscript.

The editors then make a decision based on the reviewers' advice, usually at least two, from among several possibilities:

- Accept As Is, with or without editorial revisions;
- Accept With Minor Revisions, with only minor changes to be made by the author;
- Return To Author(S) For Important Modifications, author to revise & resubmit for another round of reviews;
- Reject, but indicate to the authors that further work might justify a resubmission;
- Reject Outright, typically on grounds of specialist interest, lack of novelty, insufficient conceptual advance or major technical and/or interpretational problems.

Reviewers are welcome to recommend a particular course of action, but they should bear in mind that the other reviewers of a particular paper may have different technical expertise and/or views, and the editors may have to make a decision based on conflicting advice. The most useful reports, therefore, provide the editors with the information on which a decision should be based. Setting out the arguments for and against publication is often more helpful to the editors than a direct recommendation one way or the other.



The review should provide the editor the proper context and perspective to make a decision on acceptance or rejection of the manuscript

All reviewers are informed of the journal's expectations, and editors should make an effort to educate them and suggest educational materials (such as articles on how to peer review):

- a. The editors should routinely assess all reviews for quality.
- b. They may also edit reviews before sending them to authors, or simply not send them if they feel they are not constructive or appropriate.
- c. Ratings of review quality and other performance characteristics of reviewers should be periodically assessed to assure optimal journal performance, and must contribute to decisions on reappointment or ongoing review requests (for journals that do not formally appoint reviewers).
- d. Individual performance data must be kept confidential.
- e. Performance measures such as review completion times should be used to assess changes in process that might improve journal performance.

2.4 What is expected of Reviewers?

The submitted manuscript is a privileged communication; reviewers must treat it as confidential. It should not be retained or copied. Also, reviewers must not share the manuscript with any colleagues without the explicit permission of the Executive Editor or Editors. Reviewers and editors must not make any personal or professional use of the data, arguments, or interpretations (other than those directly involved in its peer review) prior to publication unless they have the authors' specific permission or are writing an editorial or commentary to accompany the article.

If reviewers suspect misconduct, they should notify the Executive Editor in confidence, and should not share their concerns with other parties unless officially notified by the journal that they may do so.

High-quality review is important, but equally important is that readers be able to readily determine which contents of the journal are peer-reviewed. The journal should describe which types of articles are peer reviewed, and by whom (i.e. only by editorial board members, by outside expert reviewers, or both).



If reviewers suspect misconduct, they should notify the Executive Editor in confidence Pertanika would publish annual audits of acceptance rates, publication intervals, percentage of submissions sent out for external peer review, and other performance data as applicable.

Timeliness 2.5

Reviewers should be prompt with their reviews. If a Reviewer cannot meet the deadline given, the Reviewer should contact the Executive Editor as soon as possible to determine whether a longer time period or a new Reviewer should be chosen. Typically, the time to complete the **first review** is 3 weeks.

2.6 Decision Quality

The Executive Editor has a responsibility to provide the Author with an explanation of the editorial decision on a manuscript. Editors should write high-quality editorial letters that integrate reviewers' comments and offer additional suggestions to the Author, Editors should not send a decision letter, without explanation, attached to a set of reviewers' comments.

Submission by Editorial Board Members 2.7

Publishing work from a journal's own Editorial Board member:

All manuscripts submitted to Pertanika undergo the rigid double-blind review process, whereby Authors do not know Reviewers and vice versa. In addition, when making editorial decisions about peer-reviewed articles where an editor is an author or is acknowledged as a contributor, Pertanika has mechanism that ensures that the affected editors or staff members exclude themselves and are not involved in the publication decision.

When editors are presented with papers where their own interests may impair their ability to make an unbiased editorial decision, they should deputize decisions about the paper to a suitably qualified individual. In such cases, the Executive Editor would ensure a suitable editorial board member or the Editor-in-Chief



Typically, the time to complete the first review is 3 weeks



would evaluate manuscripts objectively, fairly and professionally, and personal biases would be avoided in their comments and judgments.

However, too many or frequent submissions of manuscripts from the Journal's own Editorial Board should be avoided due to ethical issues.

2.8 Publishable Amendments

These are usually requested by the authors of the publication and are represented by a formal printed and online notice in the journal because they affect the publication record and/or the scientific accuracy of published information. Where these amendments concern peer-reviewed material, they fall into one of four categories: **erratum**, **corrigendum**, **retraction** or **addendum**, described here.

2.8.1 Erratum

Notification of an important error made by the journal that affects the publication record or the scientific integrity of the paper, or the reputation of the authors, or of the journal.

2.8.2 Corrigendum

Notification of an important error made by the author(s) that affects the publication record or the scientific integrity of the paper, or the reputation of the authors or the journal. All authors must sign corrigenda submitted for publication. In cases where Co-Authors disagree, the editors will take advice from independent peer-reviewers and impose the appropriate amendment, noting the dissenting author(s) in the text of the published version.

2.8.3 Retraction

Notification of **invalid results**. All co-authors must sign a retraction specifying the error and stating briefly how the conclusions are affected, and submit it for publication. In cases where Co-Authors disagree, the editors will seek advice from independent peer-reviewers and impose the type of amendment that seems

most appropriate, noting the dissenting author(s) in the text of the published version.

Retractions are judged according to whether the main conclusion of the paper no longer holds or is seriously undermined as a result of subsequent information coming to light of which the authors were not aware at the time of publication. In the case of experimental papers, this can include further experiments by the authors or by others that do not confirm the main experimental conclusion of the original publication.

Readers wishing to draw the editors' attention to published work requiring retraction should first contact the authors of the original paper and then write to the journal, including copies of the correspondence with the authors (whether or not the correspondence has been answered). The editors will seek advice from reviewers if they judge that the information is likely to draw into question the main conclusions of the published paper.

2.8.4 Addendum

Notification of a peer-reviewed addition of information to a paper, usually in response to readers' request for clarification. Addenda are published only rarely and only when the editors decide that the addendum is crucial to the reader's understanding of a significant part of the published contribution.

2.9 Copyright Law

Authors should check their manuscripts for possible breaches of copyright law (e.g., where permissions are needed for quotations, artwork or tables taken from other publications) and secure the necessary permissions before submission.

Authors should avoid anything in the text of the manuscript that might be actionable, such as defamation. Authors should avoid using sexist and biased language that could be interpreted as denigrating to ethnic or other groups; for example, plural rather than single pronouns ("they" rather than "he") are recommended.

III. Penalties

Plagiarism is scientific misconduct and is an unacceptable violation of publication ethics. It will be dealt with promptly.

The Editors-in-Chief, and their respective Editorial Boards, and the Reviewers are the primary means of detecting plagiarism in manuscripts submitted to Pertanika journals.

Given the serious nature of a charge of plagiarism, it is required that confidentiality be maintained throughout the process. The charge of plagiarism, supporting materials and outcome are only to be made known to those persons who are involved in the review process.

Due process and confidentiality are important in all cases of alleged plagiarism, falsification and other unethical conduct. Such cases will be handled according to the Code of Ethics of the Pertanika Journal Publication Working Committee and University Publications Committee.

In instances where the Editor deems as "major" unethical conduct, the paper will be **rejected** and the authors may be **barred** from submitting to Pertanika for a period of time (one to three years) depending on the nature of the unethical conduct.

Pertanika reserves the right to evaluate issues of unethical conduct such as plagiarism and redundancy, etc on a case-by-case basis.

3.1 **Penalties** (by the Publication Working Committee on *Pertanika*)

Any work in the manuscript that has been proven to contain any form of plagiarism, falsification, fabrications, or omission of significant material constitutes unethical publishing behavior and is unacceptable. Such cases will be handled according to the practices of the Publication Working Committee on Pertanika.

Journal reputation depends heavily on the conduct and fairness of its Board members. The Editorial Board members shall demonstrate their dedicated efforts to this effect at all times.



Plagiarism is scientific misconduct and is an unacceptable violation of publication ethics. It will be dealt with promptly



When making editorial decisions about peer reviewed articles submitted to Pertanika where the Editorial Board member is an author or is acknowledged as a contributor, the affected Editorial Board member or staff members should exclude themselves in the publication decision of such articles. Complainants shall bring cases of suspected members' misconduct to the attention of the Editor-in-Chief or Executive Editor who shall ensure that the relevant documentation substantiating an unacceptable violation of publication ethics is made available to the Publication Working Committee on Pertanika for a suitable action below.

Too many or frequent submissions of manuscripts from the Journal's own Editorial Board members should be avoided due to ethical issues.

- Notice to the author(s) involved;
- Rejection of manuscript;
- Sanctions would typically include a ban from submission to Pertanika journals for a period of time, normally up to 3 years.
- Additionally, it is required that where an author found quilty of plagiarism, or any other unethical conduct who holds an editorial office at Pertanika journal will be dismissed from that office. The Publication Working Committee has the sole responsibility and authority to determine the sanction. Sanctions may be applied unevenly in the case of multiple authors.

The *Pertanika*'s Code of Ethics was approved by Professor Abu Bakar Salleh, Deputy Vice Chancellor (Research & Innovation) and Chairman, University Publications Committee. It was developed with the research assistance of Professor Mohd. Zamri Saad, Professor Tan Soon Guan, Professor Shamsher Mohamad, Professor Mohd Ali Hassan and Ms. Erica Kwan Lee Yin. Helpful comments were received from Professor Aini Ideris, Deputy Vice Chancellor (Academic & International Affairs).

Prepared by Dr Nayan KANWAL Executive Editor, *Pertanika* Journals

First Draft: April 6, 2010 Last Revision: October 15, 2010.

Contact information

Chairman

PROFESSOR DATO' DR ABU BAKAR SALLEH

University Publications Committee
Deputy Vice Chancellor (R&I)
Office of the Deputy Vice Chancellor (R&I)
Universiti Putra Malaysia

Tel: +603 8947 1002

E-mail: tncpi@putra.upm.edu.my

Chairman

PROFESSOR DR MOHD ZAMRI SAAD

Pertanika Journal Publication Working Committee Universiti Putra Malaysia

Tel: +603 8947 1620

E-mail: zamri@vet.upm.edu.my

Pertanika Editorial Office

MS ERICA KWAN LEE YIN

Publication Officer, *Pertanika* Journals Research Management Centre Office of the Deputy Vice Chancellor (R&I) 1st Floor, IDEA Tower II UPM-MTDC Technology Centre Universiti Putra Malaysia 43400 UPM, Serdang Selangor, Malaysia

Tel: +603 8947 1619

E-mail: pertanika.admin@yahoo.com

URL: www.pertanika2.upm.edu.my/jpertanika/index.htm

Executive Editor

DR NAYAN KANWAL

Pertanika Journals Universiti Putra Malaysia

Tel: +603 8947 1622; +6016 217 4050 E-mail 1: ndeeps@admin.upm.edu.my

E-mail 2: ndeeps@ymail.com

Editor-in-Chief

PROFESSOR DR TAN SOON GUAN

Journal of Tropical Agricultural Science

Tel: +603 8946 8098; +6013 331 2448 E-mail 1: sgtan@biotech.upm.edu.my E-mail 2: sgtan_98@yahoo.com

Editor-in-Chief

PROFESSOR DR MOHD ALI HASSAN

Journal of Science & Technology

Tel: +603 8946 7590; +6019 266 7716 E-mail: alihas@biotech.upm.edu.my

Editor-in-Chief

PROFESSOR DR SHAMSHER MOHAMAD

Journal of Social Sciences & Humanities

Tel: +603 8946 7433; +6012 214 7526 E-mail 1: shamsher@econ.upm.edu.my E-mail 2: shamsher57@yahoo.com

PUBLISHED BY

Research Management Centre
Office of the Deputy Vice Chancellor (R&I)
1st Floor, IDEA Tower II
UPM-MTDC Technology Centre
Universiti Putra Malaysia
43400 UPM, Serdang
Selangor, Malaysia



