

Proceedings of the Pakistan Academy of Sciences

Instructions for Authors

Purpose and Scope: Proceedings of the Pakistan Academy of Sciences (PPAS) is official journal of the Academy, published quarterly, in English. PPAS publishes original research papers in Engineering Sciences & Technology, Life Sciences, Medical Sciences, and Physical Sciences. State-of-the-art reviews (~ 20 pages, supported by recent references) summarizing R&D in a particular area of science, especially in the context of Pakistan, and suggesting further R&D are also considered for publication. All manuscripts under go double-blind review. Authors are not required to be Fellows or Members of the Pakistan Academy of Sciences or citizens of Pakistan.

Manuscript Format:

Manuscripts, typewritten in Times New Roman **Font Size 11**, double spaced; with one inch margins on all sides on A-4 size paper, should not exceed 20 pages including Tables, Figures and illustrations. Number manuscript pages throughout. *To conserve space, the Instructions are not double spaced and are in font size 10.*

*The manuscripts may contain **Abstract, INTRODUCTION, MATERIALS AND METHODS (or METHODOLOGY), RESULTS, DISCUSSION (or RESULTS AND DISCUSSION), CONCLUSIONS, ACKNOWLEDGEMENTS and REFERENCES** and any other information that the author(s) may consider necessary.*

Title Page: Should carry: (a) Concise **Title** of the article (in Initial Capital and then lower case letters for each main word; font size 16; **Bold**), ≤ 160 characters, depicting its contents. Do not use abbreviations or acronyms; (b) Author(s)' first name, middle initial and last name (font size 12, **Bold**), and professional affiliation(s) [i.e., each author's Department, Institution, Mailing address and Email address; but no position titles]; (c) Indicate the corresponding author with *; (d) **Short running title** of ≤ 50 characters.

Second Page should start with the **Title** of the Article, followed by entire manuscript comprising **Abstract, Keywords, INTRODUCTION, MATERIALS AND METHODS, RESULTS, DISCUSSION, ACKNOWLEDGEMENTS, and REFERENCES.**

Headings and Subheadings: All flush left

LEVEL-1: ALL CAPITAL LETTERS; Bold

Level-2: Capital letter for each main word; Bold

Level-3: Initial Capital and then lower case letters for all words; Bold, italic

Level-4: Run-in head; Italics, in the normal paragraph position with only an Initial Capital and ending in a colon (i.e., :)

Abstract: Must be self-explanatory, of 200–250 words (in font size 10), stating rationale, objective(s), methodology, main results and conclusions of the study. Abbreviations, if used, must be defined on first mention in the Abstract as well as in the main text. ABSTRACT of review articles may have variable format, but must be of 200–250 words.

Keywords: Suggest three to eight keywords, depicting the article.

INTRODUCTION: Provide a clear and concise statement of the problem, citing relevant literature, and objectives of the investigation.

MATERIALS AND METHODS: Provide an adequate account of the procedures or experimental details, including statistical tests (if any), in a concise manner but sufficient enough to replicate the investigation.

RESULTS: Be clear and concise with the help of appropriate Tables, Figures and other illustrations. Data should not be repeated in Tables and Figures.

DISCUSSION: Provide interpretation of the Results in the light of previous relevant studies, citing published references.

ACKNOWLEDGEMENTS: In a brief statement, acknowledge financial support and other assistance.

REFERENCES: Cite references in the text **by number only** in **square brackets**, e.g. “Brown et al [2] reported ...” or “.. as previously described [3, 6-8]”, and list them in REFERENCES section, in the order of citation in the text, Tables and Figures (not alphabetically). Only published (and accepted for publication) journal articles, books, and book chapters qualify for REFERENCES. List of REFERENCES (in font size 10) may be prepared as under:

a. **Journal Articles** (*Name of the journal to be stated in full*)

1. Golding, I. Real time kinetics of gene activity in individual bacteria. *Cell*, 123: 1025–1036 (2005).
2. Bialek, W. & S. Setayeshgar. Cooperative sensitivity, and noise in biochemical signaling. *Physical Review Letters*, 100: 258–263 (2008).
3. Kay, R.R. & C.R.L. Thompson. Forming patterns in development without morphogen gradients: scattered differentiation and sorting out. *Cold Spring Harbor Perspectives in Biology*, 1: doi: 10.1101/cshperspect.a001503 (2009).

b. **Books**

4. Luellen, W.R. *Fine-Tuning Your Writing*. Wise Owl Publishing Company, Madison, WI, USA (2001).
5. Alon, U. & D.N. Wegner (Eds.). *An Introduction to Systems Biology: Design Principles of Biological Circuits*. Chapman & Hall/CRC, Boca Raton, FL, USA (2006).

c. **Book Chapters**

6. Sarnthein, M.S., & J.D. Stanford. Basal Sauropodomorpha: historical and recent phylogenetic developments. In: *The Northern North Atlantic: A Changing Environment*. Schafer, P.R. & W. Schluter (Eds.), Springer, Berlin, Germany, p. 365–410 (2000).
7. Smolen, J.E. & L.A. Boxer. Functions of Europhiles. In: *Hematology, 4th ed.* Williams, W.J., E. Butler, and M.A. Litchman (Eds.), McGraw Hill, New York, USA, p. 103–101 (1991).

Tables, with concise but comprehensive headings, on separate sheets, must be numbered according to the order of citation (like **Table 1.**, **Table 2.**). If applicable, round off data to the nearest three significant digits. Provide essential explanatory footnotes, with superscript letters or symbols keyed to the data. Do not use vertical or horizontal lines, except for separating column heads from the data and at end of the **Table**.

Figures may be printed in two sizes: (i) column width of 8.0 cm; or (ii) entire page width of 16.5 cm. **Captions to Figures** may be typed on a separate page; number them as **Fig. 1.**, **Fig. 2.**, ... in the order of citation in the text. Computer generated, laser printed, **line drawings** or original line drawings made with black ink on white drawing or tracing paper are acceptable. Do not use lettering smaller than 9 points or unnecessarily large. **Photographs**, as glossy prints, must be of high quality. If to form multiple panels on the journal page, they should be mounted and be separated from adjacent photographs by uniform spaces. A scale bar should be provided on all photomicrographs.

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Manuscript Submission: Soft copy of the manuscript in **Microsoft (MS) Word**, as e-mail attachment or on a CD, **may be submitted to:**

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