

Proceedings of the Pakistan Academy of Sciences

Instructions for Authors

Purpose and Scope: *Proceedings of the Pakistan Academy of Sciences* is official journal of the Academy, published quarterly, in English. It 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. Manuscripts undergo 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, in *Times New Roman*, double-spaced (but single-space the Tables), with line numbering and 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, Keywords, INTRODUCTION, MATERIALS AND METHODS, RESULTS, DISCUSSION (or RESULTS AND DISCUSSION), CONCLUSIONS, ACKNOWLEDGEMENTS and REFERENCES and any other information that the author(s) may consider necessary. The Manuscript sections must be numbered, starting with **1. INTRODUCTION**. Text of **Abstract, Keywords, ACKNOWLEDGEMENTS and REFERENCES** (in **Font Size 10**) and **all other sections** (in **Font Size 11**) *must be typed in a single column across the paper width.* All Tables and Figures must be placed after the text, i.e., after REFERENCES.

Title Page: Should carry: (a) Concise **Title**, depicting contents of the article (in Initial Capital and then lower case letters for each main word; font size 16; **bold**), ≤ 160 characters. 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 (font size 12); but no position titles]; (c) Indicate the corresponding author with *; (d) **Short running title** of ≤ 50 characters (in font size 10).

Second Page should start with **Title** of the Article, followed by entire manuscript.

Headings and Subheadings: All flush left

LEVEL-1: ALL CAPITAL LETTERS; bold

Level-2: Initial Capital and then lower case letters 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, 200–250 words (in font size 10), stating rationale, objective(s), methodology, salient 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.

Keywords: Three to eight keywords, depicting the article.

INTRODUCTION: Provide a clear and concise statement of the problem, citing relevant recent 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 study.

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

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 (in font size 10) **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 must be prepared as under:

a. **Journal Articles** (*Name of journals must 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 Euophiles. In: *Hematology, 4th ed.* Williams, W.J., E. Butler & 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.**). 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.e., column width of 8.0 cm or entire page width of 16.5 cm. Number them as **Fig. 1.**, **Fig. 2.**, ... in the order of citation in the text. Captions to Figures must be concise but self-explanatory. Computer generated, laser printed line drawings are acceptable. Do not use lettering smaller than 9 points or unnecessarily large. **Photographs**, digital or glossy prints, must be of high quality. A scale bar should be provided on all photomicrographs.

Declaration: Provide a declaration that the results are original; the same material is neither ‘in press’ nor under submission elsewhere; approval of all authors has been obtained to submit the manuscript; and, in case the article is accepted for publication, its copyright will be assigned to *Pakistan Academy of Sciences*. Authors must obtain permission to reproduce copyrighted material from other sources.

Reviewers: Authors may suggest four prospective reviewers, two local and two from scientifically advanced countries.

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