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Title

New opportunities for authors

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New Opportunities for Authors

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39 The *Journal of Applied Physiology* is pleased to offer two new article types for you to consider
40 as vehicles for your work. You will find both described on the journal website under article types
41 (<http://www.the-aps.org/mm/Publications/Journals/J-Appl-Physiol/Article-Types.html>), where
42 the major details and criteria are laid out. As you might expect, the criteria listed in the author
43 instructions for each will also be used during peer review to evaluate each article for possible
44 publication. The two types of articles are:

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46 1) Cores of Reproducibility in Physiology

47 2) Case Studies in Physiology

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49 ***Cores of Reproducibility in Physiology***

50 This new article type, CORP for short, will be an *invited review*. The vision is to have world
51 experts in a particular experimental technique or item of equipment in common use write a
52 detailed review of the technique or device, emphasizing practical aspects of importance for
53 achieving good results. The intent is to improve the use of techniques and equipment by those
54 less familiar with them. This in turn is driven by the need to improve reproducibility of research
55 results generally.

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57 The expectation is that the author(s) will not simply describe the high level features of the
58 method/equipment, but will delve into hands-on details to inform readers of important practical
59 aspects that, if not considered, may lead to poor results.

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61 We will require a uniform format containing several sections, each led by subtitles.

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- a) The title of the article should start with the acronym “CORP:.....” followed by the particular method or equipment.
- b) The article should begin with a high level, brief, description of the method/device, the underlying principles, and its intended use(s).
- c) There should then be a section on implementation, including not just setting it up and running it, but also “how to” details for calibration, validation, range (high and low), sensitivity, specificity, and reproducibility. Regarding reproducibility, we would like to see separation of sources of variance into that of the method/device itself; within-subject variance, and between subject variance.
- d) An important section will follow with the often under-appreciated “secrets” with which only true experts are familiar - issues that are nonetheless important to ensure high quality results. These are often seemingly minor, hands-on details that never appear in the standard instructions, but which experience has shown are important.
- e) A section of the article should critically discuss what the method/device *can* do when used properly.
- f) A further section should equally critically discuss what the method/device *cannot* do, and is not intended to do.

Each article will be peer-reviewed with the same rigor as applied to regular research papers, and in light of meeting the above criteria. They will therefore be accepted at the Editors’ discretion.

84 Commonly, authors will have been involved in development of the method or device. It will
85 therefore be of utmost importance for the author(s) to fully disclose conflicts of interest and to
86 avoid positive or negative bias.

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88 *Case Studies in Physiology*

89 This new article type responds to the occasional submission we receive that presents original
90 measurements in rarely accessible subjects. Often, there will be just a single subject described.
91 Submissions are at the discretion of authors, and must be based on original, unpublished data.

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93 Examples include physiological data obtained from a world class athlete, a single astronaut in
94 space for a uniquely long time, or physiological measurements in a species that is generally not
95 able to be studied, but where a unique measurement opportunity presents itself. Such species
96 could be rare wild animals where research measurements can be made only on a single subject,
97 perhaps in conjunction with necessary clinical care. No matter what kind of subject is studied,
98 there must be animal or human use committee approval, just as for regular research papers.

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100 Here too we will require a standard format, with subtitles for each. In general, the format echoes
101 that of regular research papers, but with specific content requirements:

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103 a) The title should begin “Case Studies in Physiology:....” Followed by the specific title
104 words.

105 b) The introduction should make the case for why the study is of interest.

- 106 c) Methods should include description of any specific modifications of standard techniques
107 required by the case in question.
- 108 d) There must be explicit statistical consideration of the data given the expectation that in
109 most cases, there will be a single subject studied. The results need to be demonstrably
110 robust allowing clear conclusions.
- 111 e) The results section should be detailed with data included for the reader to consider.
- 112 f) The discussion must not only present any technical or study design limitations imposed
113 by the uniqueness of the experimental setting, but also discuss their effects on data
114 interpretation. For example, a rare animal study may have to be done in an abnormal
115 body position and during anesthesia, both of which may significantly change
116 physiological states from the normal awake situation. There must also be discussion of
117 the general applicability of the results found, and specific justification of why the case is
118 of value (beyond simply being a unique opportunity to gather data). Most importantly,
119 there must be a broader message than just reporting unusual data. This message will
120 usually need to be supported by contrast with appropriate control subject data from the
121 literature. At the end of the day, the article should be written to be of instructional value
122 to readers.

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124 In general, Case Studies articles will be limited to five printed journal pages, but exceptions can
125 be made when justified by the extent of data presentation and need for discussion.

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127 We not only hope you will enjoy these new article types, but want to encourage each of you to
128 think about them and propose specific submissions directly to the Editor (jappleic@ucsd.edu).