

EDITOR'S NOTE: JAESE'S APPROPRIATENESS FOR TENURE & PROMOTION DECISIONS

As with any journal in its early years of publication, the question of, “Will peer-reviewed JAESE articles count toward academic tenure and promotion decisions at my institution?” starts to come across my editorial desk. This is an appropriate query because, unquestionably, the currency of academic scholarship is refereed publications. On behalf of JAESE’s distinguished Editorial Advisory Board, am I am able to respond with an enthusiastic, “Yes!”

What makes a journal high-quality is, not surprisingly, open to some academic interpretation. While too many scholars spend time falsely juxtaposing and debating a particular journal’s “quantity of pages” versus “quality of impact on the field” *ad infinitum*, the aspect of JAESE we are most interested in is simply, “are we able to meaningfully referee and make easily accessible the best work to the academic community?” Our motivation to create JAESE was based upon (i) the void created with the cessation of the *Astronomy Education Review*, (ii) the large number of manuscripts already being received by geosciences education journals like *Journal of Geoscience Education*, (iii) the subscription nature of *Journal of College Science Teaching*, and (iv) the non-library subscription nature of the *Journal and Review of Astronomy Education and Outreach*. In much the same way of thinking, no-cost online repositories, like *arXiv.org* and *ResearchGate*, currently lack the systematic and reliable peer-reviewing that is so critical for young scholars trying to establish themselves. What was once a rather straightforward question about value just a decade ago has become increasingly complex as the world of academic publishing is rapidly evolving. Taken together, it was in response to our community’s need for a valuable, reliable, and permanent publication venue vehicle that motivated us to create the *Journal of Astronomy & Earth Sciences Education* in the first place.

People often query about JAESE acceptance rates. Under duress, I will quietly admit to you that JAESE anticipates having about a 30% acceptance rate—it might be higher or lower over the long term—but I’ll also confess that acceptance rates as a valid measure of journal quality is completely meaningless. On one hand, the *Astrophysical Journal*, the inarguable top-tier astronomy journal has a 91% acceptance rate. On the other hand, the *Journal of Teacher Education*, the best candidate for the top-tier education journal, has a 6% acceptance rate. That’s a magnificent difference between acceptance rates. Which is the higher quality journal? I don’t know in these two cases, but I can tell you that the value for acceptance rate doesn’t seem to have anything to do with it.

Moreover, people sometimes inquiry about JAESE’s affiliation with a professional society. To many people’s surprise, most professional societies publish journals specifically as a revenue raising activity in order to fund its office and programs. The Geological Society of America, the American Geophysical Union, and the American Astronomical Society earn millions of dollars each year through their publications. Operating a revenue-positive journal is not considered to be a negative, as Society-based journals provide a critically important service to their members. Across the discipline of library sciences, a professional society affiliation is rarely considered evidence of quality. In our case, JAESE is not affiliated with a professional society, because we want to keep costs as low as possible.

It is our Editorial Advisory Board’s considered position that a solid peer-review system is the most reliable path for having valuable articles in our community’s journal. Whereas some journals use only a single, peer-reviewer, JAESE uses a multiple-peer review system. Each submitted manuscript has the authors’ names and their affiliations removed before review, as this has been shown in a variety of fields to influence acceptance. Manuscripts are reviewed by two Review Board members, as well as by the Editor. In cases where there is specialized knowledge being advanced, either scientific or educational, more reviewers are used. The philosophical inclination of our review system is formative, rather than punitive, in an attempt to help authors get their work out when appropriately mature. It is our hope that this review system will enhance the usefulness of the articles and provide valuable feedback to authors.

JAESE is an open-access journal. This means that its peer-reviewed articles are freely available to readers and libraries across the globe without a paying a subscription fee. Whereas the more traditionally run journals cover their costs by astonishingly large subscription fees to libraries, open-access journals instead charge authors or their institutions a nominal page-charge fee to cover their costs, including copyediting, layout, indexing, permanent storage, stable access, and curation—all of these things have costs. I used to naively believe that all it takes to start

and run journal was simply put up a website and call it a journal; but, to my surprise, permanent storage, indexing, copyediting, and stable URLs are vitally important, and not as easy as I had first assumed.

We've spent quite a bit of time creating this publishing vehicle for the science education research community, and it is something that we're quite proud of. Unfortunately, it has been off-handedly suggested that JAESE might be a predatory journal or perhaps a place too new for faculty seeking promotion and tenure. I, JAESE's Editor-in-Chief, along with JAESE's guiding Editorial Advisory Board can assure you that JAESE is not a predatory journal and is appropriate place for both junior and senior scholars to publish. Moreover, a quick glance at our list of well-known Editorial Advisory Board members, or a read of the high quality of papers JAESE is published, should be enough to put any such fears to rest.

Simply charging authors or their institutions a fee is not in and of itself any evidence of being a predatory or unworthy journal, as many scientific journals have such per-page fees, including *Journal of Geoscience Education* (JGE charges ~\$100/page, but fees are optional for those without institutional support) and the *Astrophysical Journal* (~\$275/page fees). Moreover, journals such as *Journal of Research in Science Teaching* are seemingly free to publish in, but as of this writing charge a ~\$3,000 fee if authors wish to make their articles available open-access to those without a subscription. GSA's *Geology* currently carries a \$2500 per article fee. Because JAESE isn't connected to a big publishing company, JAESE charges a nominal open-access fee, averaging about \$500 per article—and authors' retain their own copyright. In other words, the cost is about the same as similar journals, but JAESE readers do not require a subscription, making the overall cost lower. The JAESE Editorial Board judged this to be a much better model than other available options. If you're really interested in how much it actually costs to publish an article, I recommend starting by reading Van Noorden's (2013) *Nature* 495(7442) well-researched article on the subject.

JAESE wasn't created overnight. Instead, the current form of JAESE is a result of two years of collaborative planning, including the competitive selection of an experienced, US-based academic publisher. Part of that planning includes the creation and engagement of both an Editorial Advisory Board and a Board of Reviewers who are highly respected and well-known scholars, including former journal editors, who oversee JAESE.

In the end, the judged quality of any journal should be mostly independent of its business model. Instead, I believe that the quality of any scientific journal should be judged on its usefulness to scholarly authors, the extent to which it influences our community's progress, and its wide accessibility to scholarly readers, rather than seemingly objective—and highly manipulatable—efforts to clinically quantify a journal's value, like impact factors and citation indexes. Taken together, JAESE is an appropriate venue for academic scholars who wish to have their work seriously peer reviewed and widely disseminated in the pursuit of promotion and tenure.

Timothy F. Slater, Ph.D.
Editor-in-Chief

Disclaimer of Liability: No responsibility is assumed by the publisher for injury and/or damages to persons or property as a result of implementing any ideas contained in the material published in the *Journal of Astronomy & Earth Sciences Education*. The ideas and theories contained in this publication are those of the authors only.

Copyright: As a condition of publication, the authors must grant The Clute Institute the right to disseminate their manuscript to the widest possible readership in print and electronic format. Authors must also agree to our open access policy.

Open Access Policy: As a condition of publication, the authors must grant The Clute Institute the right to disseminate their manuscript to the widest possible readership in print and electronic format. Authors must also agree to our open access policy, which is to provide immediate open access to our journals on the principle that making research freely available to the public supports a greater global exchange of knowledge. Users are allowed to read, download, copy, distribute, remix, tweak, build upon, print, search, or link the full text of the articles in this journal provided that appropriate credit is given.

Double Blind Peer Reviewed: The Clute Institute, our editors, and members of all editorial teams are committed to objective and fair double-blind peer reviews of submitted manuscripts for journal publication and will evaluate manuscripts for their intellectual content without regard to race, gender, sexual orientation, religious belief, ethnic origin, citizenship, or political philosophy.

For more information about our Code of Publication Ethics, our Plagiarism Policy, our Open Access Policy, and for manuscript guidelines, visit our website at www.CluteInstitute.com.

TABLE OF CONTENTS

1. *Adoption Of ASL Classifiers As Delivered By Head-Mounted Displays In A Planetarium Show* by Eric G. Hintz (Brigham Young University, USA), Michael D. Jones (Brigham Young University, USA), M. Jeannette Lawler (Brigham Young University, USA), Nathan Bench (Brigham Young University, USA), and Fred Mangrubang (Gallaudet University, USA).
17. *Position Paper On Use Of Stereoscopy To Support Science Learning: Ten Years Of Research* by C. Aaron Price (Museum of Science and Industry, Chicago, USA), Hee-Sun Lee (The Concord Consortium, Concord USA), Julia D. Plummer (Pennsylvania State University, USA), Mark SubbaRao (Adler Planetarium, Chicago, USA), and Ryan Wyatt (California Academy of Sciences, San Francisco, USA).
27. *An Essay On Interactive Investigations Of The Zeeman Effect In The Interstellar Medium* by Lauren Woolsey (Harvard University, USA).
33. *Using A Digital Planetarium For Teaching Seasons To Undergraduates* by Ka Chun Yu (Denver Museum of Nature & Science, Denver, USA), Kamran Sahami (Metropolitan State University of Denver, USA), Victoria Sahami (Metropolitan State University of Denver, USA), and Larry C. Sessions (Metropolitan State University of Denver, USA).
51. *Questioning The Fidelity Of The ‘Next Generation Science Standards’ For Astronomy And Space Sciences Education* by Stephanie J. Slater, Ph.D. (CAPER Center for Astronomy & Physics Education Research, USA) and Timothy F. Slater, Ph.D. (University of Wyoming, USA).