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Journal of Pre-College Engineering Education Research (J-PEER) Annual Report from January 1, 2022, to December 31, 2022

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Abstract

In this annual report, we present our reflections on 2022 along with the *Journal of Pre-College Engineering Education Research* (JPEER) readership trends and authorship metrics. In 2022, *J-PEER* published two issues in volume 12 comprised of 17 articles. The second issue of the year included a special issue on the impact of COVID-19 on education, marking the impact that the pandemic had on pre-college engineering education.

Keywords

acceptance rate, readership report

Document Type

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Alternate Abstract

Özet: Bu yıllık raporda, Journal of Pre-College Engineering Education Research okuyucu trendleri ve yazarlık ölçümleriyle birlikte 2022'ye ilişkin düşüncelerimizi sunuyoruz. 2022'de J-PEER, 17 makaleden oluşan 12. ciltinde iki sayı yayınladı. Yılın ikinci sayısında, COVID-19 pandemisinin üniversite-öncesi mühendislik eğitimine etkisine ilişkin özel bir sayı yer aldı.

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Anahtar kelimeler: kabul oranı, okuyucu raporu



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Senay Purzer and Brooks M. Leftwich

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Özet

Bu yıllık raporda, *Journal of Pre-College Engineering Education Research* okuyucu trendleri ve yazarlık ölçümleriyle birlikte 2022'ye ilişkin düşüncelerimizi sunuyoruz. 2022'de *J-PEER*, 17 makaleden oluşan 12. ciltinde iki sayı yayınladı. Yılın ikinci sayısında, COVID-19 pandemisinin üniversite-öncesi mühendislik eğitimine etkisine ilişkin özel bir sayı yer aldı.

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Reflections on 2022

So much happened in 2022, most notably the aftershocks of the COVID-19 pandemic. The pandemic paralyzed certain aspects of the education system in 2020 and 2021 but at the same time facilitated new and hybrid forms of education. *J-PEER*'s special issue on “The Impact of COVID-19 on Pre-College Engineering Education” reports and archives the ways in which the pandemic has shaped teaching and research in pre-college engineering. As detailed in eight research articles published in the special issue, scholars reported formal (Pina et al., 2023) and informal (Lane et al., 2023; Snodgrass

Rangel et al., 2022) educational initiatives, studied students' development (Clark & Kajfez, 2023; Simpson & Knox, 2022) and experiences (Kidd et al., 2023), investigated educators' experiences (Jackson et al., 2023), and reviewed the educational response to the pandemic (Delen & Yuksel, 2023). This very timely effort was envisioned and accomplished by three guest editors, Meltem Alemdar, Roxanne Moore, and Hoda Ehsan. Most notably, our guest editors led the effort, our authors wrote about their work, and our reviewers provided their comments, all in the middle of a pandemic.

While the pandemic challenged all aspects of teaching and learning in the pre-college space, a clear benefit of the high-flex educational strategies that emerged during the pandemic was that they improved accessibility for underserved students (Lane et al., 2023). However, at the same time, these formats had their challenges in terms of engagement and motivation (Snodgrass Rangel et al., 2022). Whether in a pandemic or not, it is imperative that our education systems support students and their academic, emotional, and personal needs. These recommendations echo themes from an earlier special issue on asset-based engineering education (Martin & Wendell, 2021) calling for action for a more connected, inclusive, and meaningful engineering education. More research is needed on the delivery methods of curricula with the overarching goal of designing and implementing inclusive, accessible, and engaging learning experiences.

Looking Forward, New Initiatives

In 2023, we will launch our third special issue called "Provocations." We expect to publish critical, thoughtful articles on topics that impact pre-college engineering education (e.g., social justice, environmental sustainability, artificial intelligence). This special issue will continue the trend of highlighting novel research in response to the current events surrounding pre-college engineering education. The "Provocations" will build on the successes of the first two special issues and push us forward by asking thought-provoking questions: How can engineering education promote societal values? How do we infuse ethics of design, environmental sustainability, and civic education as we teach pre-college engineering? How can artificial intelligence (AI) best be integrated into pre-college classrooms?

Finally, we expect the next year will be filled with discussions about the consequences of AI. For example, can you tell if this article is written by an AI or a human author? How do you know? Moving forward, will we forbid the use of AI in the journal publication process, or will we have conversations on ways to use AI to review manuscripts? These questions and more will need to be further studied as the field attempts to distinguish the benefits and harms of the use of AI in education and the role it can play in shaping education and research.

J-PEER 2022 Readership Report

J-PEER's readership has been steadily growing over the last decade with a wide global reach. However, the number of downloads, page hits, institutions, and countries for 2022 illustrates a mixed year for metrics (see Table 1 and Figure 1). The number of total downloads dipped to a pre-pandemic level, and the number of countries also decreased. On the other hand, the number of metadata page hits rose slightly, and the number of institutions rose significantly. These mixed metrics show that the pandemic changed how we interact with scholarship, and we will look to next year to reveal new information. Yet, J-PEER's global reach to readers across the globe continues to be strong as illustrated in Figure 1.

Table 1
The number of downloads, page hits, institutions, and countries.

Year	Number of total downloads	Metadata page hits	Number of institutions	Number of countries
2022	38,742	22,038	2,396	171
2021	44,349	21,802	2,115	176
2020	40,860	20,606	2,084	170
2019	32,937	17,721	2,507	176
2018	27,808	12,218	2,300	157
2017	21,688	10,741	1,985	155
2016	21,332	8,018	2,068	154
2015	12,756	4,722	1,294	126
2014	9,329	2,818	32	35
2013	8,556	2,641	n/a	n/a
2012	4,887	2,734	n/a	n/a
2011	n/a	n/a	n/a	n/a

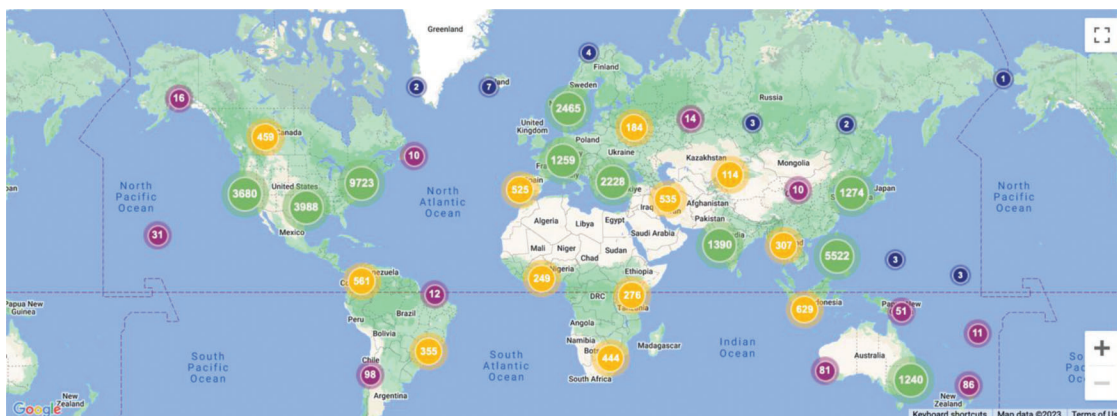


Figure 1. The number and locations/regions of downloads in 2022.

J-PEER 2022 Authorship Report

Acceptance Rate

The *J-PEER* system registers decisions under four categories: accept, accept with minor revisions, request major revisions, or reject. In 2022, we received 63 new and revised manuscripts, and the acceptance rate was 41.38% with 5 manuscripts still pending by the end of the year. This percentage is calculated by dividing the sum of the accept and accept with minor revisions manuscripts by the number of all decisions minus the pending decisions.

Average Turnaround Time

The average turnaround time is calculated based on the number of days between an author's submission of a new manuscript and receiving an editorial decision letter. Original manuscripts submitted in 2022 were processed in an average turnaround mean of 43 days with a maximum of 189 days. Our target is to keep the average turnaround time below 60 days next year with a maximum of 100 days.

Acknowledgments of Reviewers, Editors, and Staff

J-PEER is an open-access journal with a staff of mostly volunteers. The critical work of *J-PEER* would not be possible without the exceptional work of our volunteer reviewers, associate editors, and staff.

While we cannot list them all individually, we are grateful to our journal reviewers. We are thankful for each and every one of them.

Our associate editors volunteer their time to offer expert insights, syntheses of peer reviews, and strive to maintain fair and equal standards for all submissions. Many thanks to our associate editors who have supported the journal but were ready to step off their roles after their critical service to the journal:

- Merredith Portsmouth, Tufts University, Medford, MA, USA
- James Holly Jr., University of Michigan, Ann Arbor, MI, USA

Our associate editors, who continue to work with us are:

- Lee Martin, University of California, Davis, CA, USA
- Mack Shelley, Iowa State University, Ames, IA, USA
- Jennifer L. Chui, University of Virginia, Charlottesville, VA, USA
- Camilo Viera, Universidad del Norte, Barranquilla, Colombia

Finally, we would like to thank Urvi Gupta for her work as an editorial assistant for *J-PEER* over the past two years. Urvi was a valuable member of the *J-PEER* team, and we wish her well in her graduation and future career.

J-PEER Online Resources

Authors can access impact data for their articles through the “Dashboard” within their *b-press* accounts and can use the Plum metrics provided within. Additionally, we invite you to spread the word by following our Twitter account (@JPEERresearch) and sharing articles with your social circles. The open-access model of *J-PEER* facilitates free access to original research papers worldwide allowing all interested individuals to read the latest in pre-college engineering education research. *J-PEER* leads the field of pre-college engineering education, and by spreading the word we can share the latest results and insights with an even larger audience. We invite interested authors to submit their manuscripts for review, and we look forward to the year to come.

Author Bios

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