Spotlight on Academia and the Future of Research

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Abstract:

This Spotlight brings together five carefully curated articles that examine how universities, funders, and research institutions are adapting to mounting pressures on knowledge production. Together, they explore the challenges posed by generative A.I. in education, declining rigor in scholarly citation and interpretation, experimental reforms in grant peer review, institutional models for inclusive research growth, the administrative burdens constraining scientific productivity, and the strategic but limited role of philanthropy in sustaining research systems. Read collectively, these pieces show that the future of academia will depend not only on innovation, but also on accountability, equity, and structural reform. In line with JOSHA's editorial curation, the selection highlights debates that shape how knowledge is taught, evaluated, funded, and sustained, offering readers a cross-sectional view of the forces redefining research culture today.

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Abstract

This Spotlight brings together five carefully curated articles that examine how universities, funders, and research institutions are adapting to mounting pressures on knowledge production. Together, they explore the challenges posed by generative A.I. in education, declining rigor in scholarly citation and interpretation, experimental reforms in grant peer review, institutional models for inclusive research growth, the administrative burdens constraining scientific productivity, and the strategic but limited role of philanthropy in sustaining research systems. Read collectively, these pieces show that the future of academia will depend not only on innovation, but also on accountability, equity, and structural reform. In line with JOSHA's editorial curation, the selection highlights debates that shape how knowledge is taught, evaluated, funded, and sustained, offering readers a cross-sectional view of the forces redefining research culture today.

Keywords: Assessment; Rigor; Peer Review; Expansion; Bureaucracy; Philanthropy.

1. Students hate them. Universities need them. The only real solution to the A.I. cheating crisis.

By Clay Shirky

The article argues that the rise of generative A.I. tools like ChatGPT have made traditional take-home essays and written assignments increasingly unreliable for assessing student learning, since many students use A.I. to generate their work even when encouraged to use the technology responsibly. It contends that strategies such as A.I. detection software or redesigned assignments have largely failed, and that universities must instead require students to demonstrate knowledge in real time through methods like in-class essays, oral examinations, discussions, and other supervised assessments. Drawing on the history of higher education—when learning was often evaluated through oral dialogue and live examination—the article suggests that a partial return to these older, more interactive practices may help ensure genuine learning. Although such changes present logistical challenges and may be unpopular with both faculty and students, the author argues they are necessary to restore the mental effort required for learning and to preserve the educational mission of universities in the age of A.I.

This article was previously published in *The New York Times* on August 26, 2025.

Read the full article here

2. Should grant applicants judge competitors' proposals?

By Jeffrey Brainard

The article discusses distributed peer review (DPR), an alternative grant-evaluation model in which applicants themselves review competing proposals. The approach aims to address common problems in traditional peer review—such as delays, heavy reviewer workloads, bias, and inconsistency—by expanding the pool of reviewers and speeding up decision-making. Trials conducted by the Volkswagen Foundation and UK Research and Innovation (UKRI) showed promising results, including significantly faster funding decisions and generally positive feedback from participants. DPR also provides more feedback to applicants and involves more researchers in the evaluation process. However, concerns remain about whether applicants have sufficient expertise to review others' proposals and whether some

may intentionally score competitors poorly. Researchers conclude that while DPR is unlikely to replace traditional panel review entirely, it could complement it in certain funding competitions and help improve the overall grant-review system.

This article was previously published in *Science* on July 10, 2025.

Read the full article here

3. Science philanthropy faces a new reality

By Adam Falk

Recent proposals of the Trump administration to drastically cut U.S. federal funding for science highlight the limits of philanthropy: while private foundations can help sustain infrastructure, scholarships, and fellowships, they cannot restore the full research enterprise. Nevertheless, philanthropy can play a strategic and complementary role. With federal funding vastly exceeding philanthropic contributions, private foundations are well positioned to support high-risk or speculative projects, early-career researchers, and areas underfunded by agencies like the NSF or NIH. Falk emphasizes that philanthropies must maintain ethical and strategic principles in their funding decisions, carefully considering the long-term effects of how and where they distribute resources. Inclusion and diversity are equally important to ensure the development and sustainability of scientific fields. Overall, philanthropy must clearly define the roles it can and cannot play and make careful, strategic decisions about its investments.

This article was previously published in *Science, Volume 389, Issue 6757,* on July 17, 2025.

Read the full article here

4. Unburden American science

By Alan I. Leshner *et al*

The article argues that although science underpins global health, prosperity, and security, the U.S. research enterprise is being undermined by an excessive and fragmented administrative burden that forces researchers to devote over 40% of their research time to complex, duplicative, and sometimes contradictory regulatory and compliance tasks instead of discovery, wasting taxpayer resources and slowing

progress; it attributes the persistence of this problem to decades of weak federal leadership and poor coordination among more than 20 funding agencies, each with its own specialized rules, and to only sporadic, limited alignment despite numerous prior recommendations from bodies such as the National Academies; in response, it highlights a new National Academies report that offers a different strategy centered on three cross-cutting principles—harmonizing regulations and reporting across agencies, scaling oversight to actual risk, and leveraging technology to simplify compliance—along with alternative coordination mechanisms such as a federal research policy board, and calls on the Trump administration, Congress, and the scientific community to seize the current political focus on streamlining regulations to reform administrative requirements, reduce waste, and preserve a robust, globally competitive U.S. scientific enterprise.

This article was previously published in *Science*, *Volume* 389*, Issue* 6765*,* on September 11, 2025.

Read the full article here

5. Gold standard science requires gold standard scholarship

By H. Holden Thorp

Changes in how scientific research is produced have increasingly led to less attention being paid by researchers to proper data analysis and misleading citation of sources. Researchers may cite their own incorrect work, artificial intelligence can sometimes misinterpret data or generate inaccurate references, and the growing number of summaries allows people to cite studies without reading the full articles. This issue has direct consequences for society, as policymaking is often based on scientific research. For example, the recent MAHA report produced by the Trump administration in the United States, which was intended to guide health policy, appears to contain numerous incorrect or misrepresented scientific references. These problems can only be detected through a careful examination of the cited sources. Given the serious consequences of such lapses in scholarship, the author recommends greater rigor and careful attention to verifying references in scientific work.

This article was previously published in *Science, Volume 389, Issue 6766,* on September 18, 2025.

Read the full article here

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