

**From NSF Working Paper SRS 07-204, July 2007, “The Changing Research and Publication Environment in American Research Universities”**

From the Executive Summary

Findings showed that peer-reviewed articles remain the major vehicle by which research findings are validated and scientists obtain credit for their contributions. Despite the rise of new forms of research output associated with advances in information technology, such as databases, software programs, and contributions to electronic archives, and new ways to disseminate findings electronically, there was little evidence to suggest that the validity of article and citation counts as output indicators was diminishing. According to those interviewed, data on article counts are unlikely to mask or distort real changes in scholarly output, except, possibly, in computer sciences. If U.S. researchers figure less prominently in the journal literature, the reason does not appear to be because they are reporting their findings in ways that bypass the journals.

Scientists continue to report research in books, book chapters, conference presentations, and annual review articles and in recent years have begun contributing to Web archives as well. Research reports in traditional paper media other than journals have generally not increased in importance, and there were some indications that they may have declined. Publications in books have suffered increasingly from lack of timeliness in keeping pace with the rapidly moving scientific frontier, especially in the biosciences. Opinions about review compendia were mixed: Some perceived them as more important in helping readers gain an overall perspective on a burgeoning literature, but others believed they suffered from the same timeliness problems as books and book chapters. Conference proceedings, except in the computer sciences (discussed below), were not seen as competing with journals for high quality material. Similarly, non-peer-reviewed papers posted on the Web, though significant in some fields as a means of disseminating new findings, were not considered a substitute for journal publications.