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A citation analysis of journals publishing research on women in STEM in higher education

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ALA 2019 STS Research Forum

***A citation analysis of
journals publishing
research on women
in STEM in higher
education***

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TODAY'S PRESENTATION

Background of project

Women in STEM Literature

Citation Analysis and Data Visualizations

Findings

Recommendations for Libraries

Conclusion

Where to Find Us

**A copy of this presentation will be available in
DigitalCommons@UNO for download after the conference*



BACKGROUND OF THE PROJECT

WOMEN IN STEM

- Heavy recruitment efforts in the United States
- Increase in studies on recruitment and retention
- Literature is spread across disciplines

RESEARCH QUESTIONS

- Who are the major journals publishing literature regarding women in STEM in higher education?
- Who are the major publishers associated with these journals?



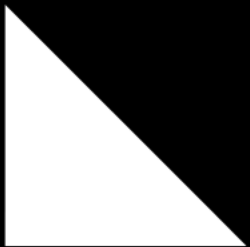
WOMEN IN STEM LITERATURE

INTERSECTIONAL

The intersectionality of the research regarding women in STEM has attracted a wide range of researchers from different disciplines outside of traditional STEM fields.

AMBIGUOUS TERMINOLOGY

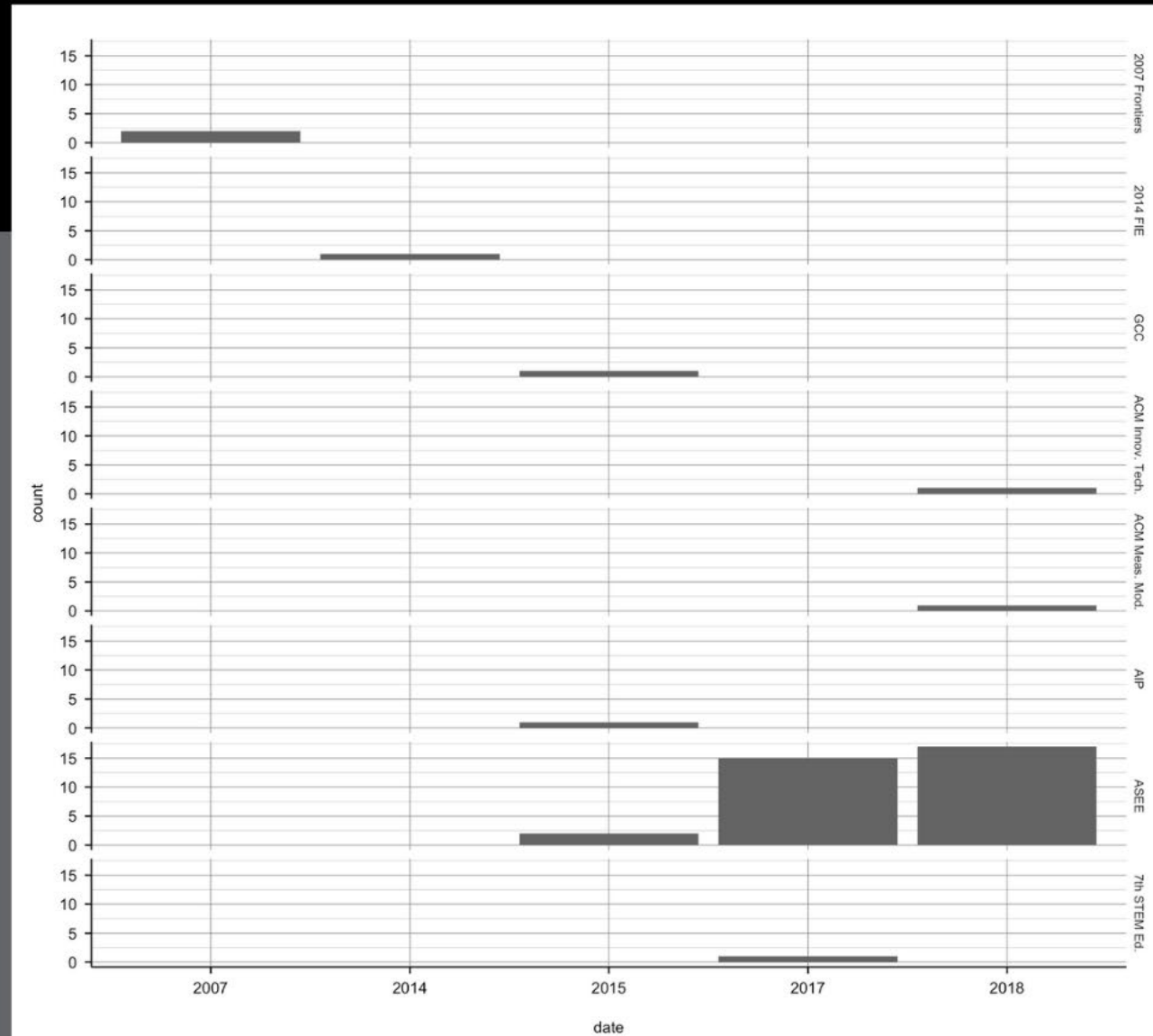
STEM as a keyword can bring up "plant stem" or "stem cell" related articles, hiding literature within databases and repositories.



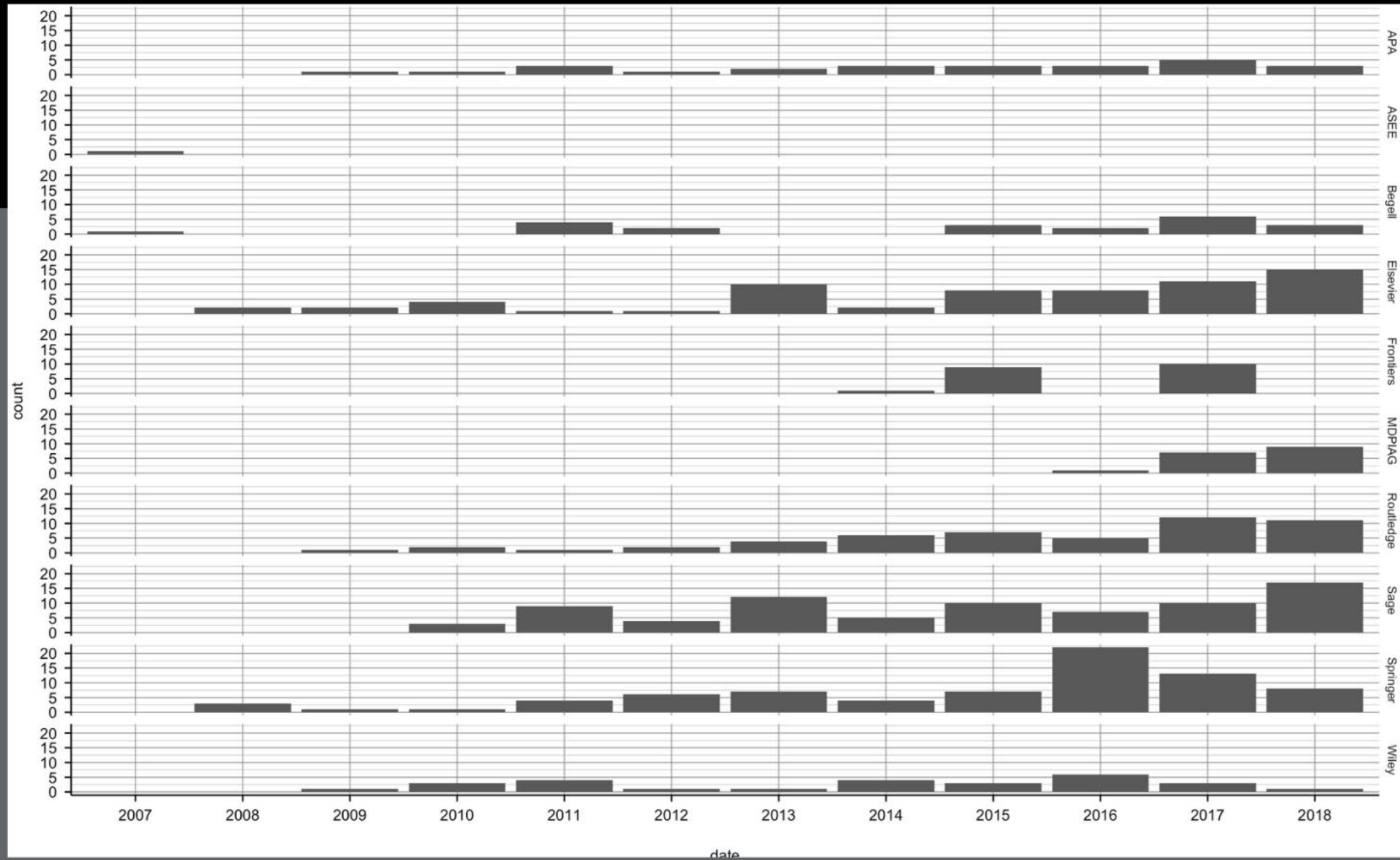
CITATION ANALYSIS

- Major database systems: Google Scholar, Web of Knowledge, Scopus, ScienceDirect, ProQuest and EBSCO
- 647 peer-reviewed, scholarly journals and conference proceedings published from 2007-2018
- Citations were imported into Zotero, then exported into a Microsoft Excel spreadsheet
- Results were de-duped and off-topic articles were identified through manual review of the authors, title, date, and journal fields.
- Used the R statistical language and the tidyverse library for data visualization

TOP CONFERENCE PROCEEDINGS

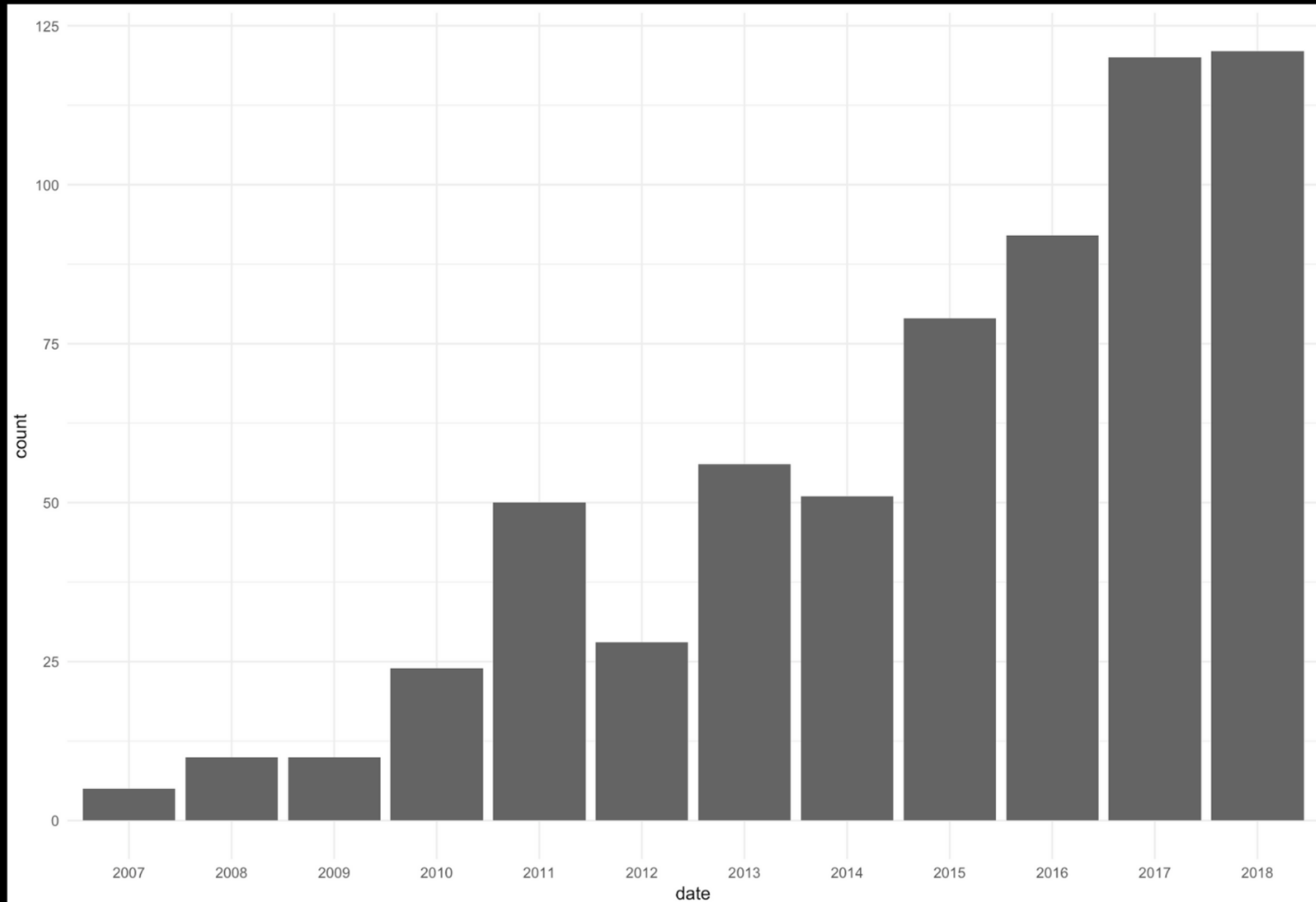


TOP PUBLISHERS



210%

INCREASE IN
NUMBER OF
ARTICLES
PUBLISHED
BETWEEN 2007-
2018



FINDINGS

JOURNALS

Journal of Women and Minorities in Science and Engineering, Sex Roles, and Social Sciences accounted for 25% of citations.

CONFERENCE PROCEEDINGS

ASEE Annual Conference and Exposition was the most prolific conference proceedings publisher.

PUBLISHERS

Sage Publications (11.9%), Springer/Nature (11.75%), and Elsevier (9.89%) were the top publishers of articles.

TOP PUBLICATIONS

JOURNALS

1. Journal of Women and Minorities in Science and Engineering
2. Sex Roles
3. Social Sciences
4. Frontiers in Psychology
5. Journal of Science Education and Technology
6. Psychology of Women Quarterly
7. Research in Higher Education
8. Journal of Vocational Behavior
9. PLoS ONE
10. Journal of Diversity in Higher Education

CONFERENCE PROCEEDINGS

1. ASEE Annual Conference and Exposition, Conference Proceedings
2. 2007 37th Annual Frontiers In Education Conference
3. 2014 IEEE Frontiers in Education Conference (FIE) Proceedings
4. 7th IEEE GCC Conference and Exhibition (GCC)
5. ACM Conference on Innovation and Technology in Computer Science Education
6. ACM International Conference on Measurement and Modeling of Computer Systems
7. AIP Conference Proceedings
8. Proceedings of the 7th IEEE Integrated STEM Education Conference

HOW LIBRARIES CAN HELP



COLLECT

Broaden the traditional scope of science, technology, engineering, and math journals to include other publications that focus on STEM careers and higher education.

COLLABORATE

Collaborate with education, gender studies, and psychology librarians to create an interdisciplinary collection.



CONCLUSION

Journals in the areas of psychology, sociology, education, gender and sexuality studies, and career development may add value to the STEM periodical collections at institutions of all sizes and research scope.



LET'S TALK

REACH OUT TO US

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