



Weill Cornell Medicine
Samuel J. Wood Library

Expanding ReCiter Publication Manager: A LYRISIS Catalyst Fund-Supported Project

Project Abstract

In 2022, Weill Cornell Medicine (WCM) and Texas A&M University were awarded a grant from LYRISIS' Catalyst Fund to develop open-source tools that use faculty data to generate research intelligence and reports. WCM's project aimed to improve the capabilities of its publication management tool, ReCiter Publication Manager. As part of this initiative, WCM enhanced the application to allow users to generate publication lists based on nine distinct criteria, incorporating author and article filters as well as a variety of bibliometric reports. In March 2023, Publication Manager successfully completed a beta test involving a group of faculty and departmental users at WCM. Consequently, the institution will launch the application for production in April. Publication Manager was designed to benefit other institutions, and the open-source code for the application can be downloaded from: <https://github.com/wcmc-its/ReCiter-Publication-Manager>.

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Expanding ReCiter Publication Manager: A LYRISIS Catalyst Fund-Supported Project

Abstract

In 2022, Weill Cornell Medicine (WCM) and Texas A&M University were awarded a grant from LYRISIS' Catalyst Fund to develop open-source tools that use faculty data to generate research intelligence and reports. WCM's project aimed to improve the capabilities of its publication management tool, ReCiter Publication Manager. As part of this initiative, WCM enhanced the application to allow users to generate publication lists based on nine distinct criteria, incorporating author and article filters as well as a variety of bibliometric reports. In March 2023, Publication Manager successfully completed a beta test involving a group of faculty and departmental users at WCM. Consequently, the institution will launch the application for production in April. Publication Manager was designed to benefit other institutions, and the open-source code for the application can be downloaded from: <https://github.com/wcmc-its/ReCiter-Publication-Manager>.

Problem

Academic institutions often need to analyze and report on publications authored by their scholars. However, many institutions do not have access to user-friendly, open-source tools to assist them in fulfilling these requirements.

To address this issue, WCM developed an open-source system called ReCiter¹, which enables institutions to suggest and store publication lists for their scholars. Despite its usefulness, the tool initially lacked a robust application for reporting on the stored data.

In 2019, an alpha version of ReCiter Publication Manager was released to address this limitation. Regrettably, this early version had several shortcomings, most notably its absence of reporting functions and an intuitive web interface, which would allow non-technical users to generate reports easily.

¹ Albert PJ, Dutta S, Lin J, Zhu Z, Bales M, Johnson SB ... Cole CL. ReCiter: An open source, identity-driven, authorship prediction algorithm optimized for academic institutions. PLoS one. 2021;16:e0244641.

Proposal

The LYRASIS Catalyst Fund is an award program that supports innovative projects advancing the mission and reach of LYRASIS member organizations. Initiated by the LYRASIS Leaders Circle, the Fund encourages opportunities to explore, test, refine, and collaborate on innovations with potential for community-wide impact. Given the widespread need for user-friendly reporting tools among LYRASIS member organizations, extending Publication Manager emerged as an excellent candidate for the Fund.

With the grant from LYRASIS, WCM proposed to (1) update ReCiter Publication Manager to enable the output of publication lists based on nine criteria, including author filters (author name, organizational affiliation, institutional affiliation, person type, rank/position) and article filters (date, publication type, journal, journal rank); and (2) outline a set of bibliometric reports, consistent with best practices, to be incorporated in a future version of Publication Manager.

Process

WCM's approach to enhancing Publication Manager involved several critical milestones, such as identifying common use cases, defining requirements, creating user interface mock-ups, drafting a technical design, developing application functionality, and offering feedback to developers. The team ultimately released a beta version of the application on GitHub, accompanied by documentation.

A primary challenge the team faced was the complexity of the publication reporting data model, which led to a requirements document surpassing 40,000 words. Moreover, WCM's ReCiter instance contained a sizable dataset, including 20,000 people, 200,000 articles, and 400,000 authorships, raising scalability concerns.

To manage the development process more effectively, the team concentrated on individual components of the application. They discussed the intended functionality during meetings, provided test cases, and offered feedback when a draft was pushed to a development instance. The team discovered that employing an agile methodology was essential and efficient, especially when tackling complex projects that innovate. In some instances, they had to develop additional indexes and optimizations not initially planned in the technical design to ensure that certain reports loaded successfully.

A significant challenge emerged when the team lost their architect for ReCiter and Publication Manager midway through the project. This experience emphasized the importance of constructing an application that is easy for the next person to build upon, requiring clean, well-organized, and well-documented code. The team also learned that such transitions can be disruptive and necessitate time for a new developer to become familiar with the project.

Results

Despite the challenges encountered by the team, they not only achieved but also exceeded their project vision. ReCiter Publication Manager application now enables faculty and departmental proxies to curate publication lists, while reporters can produce sophisticated publication reports that display a variety of data. Furthermore, the application's advanced bibliometric report can be generated with just a single click.

In February 2023, WCM completed a beta release of the application for a group of eight users with reporter and self-editor roles. The feedback was consistently positive, as users confirmed that key features of the system, such as exporting reports to CSV, the bibliometric report generator, and curating a scholar's profile, functioned as intended. Comments from users included:

- “Really cool!”
- “I really enjoyed using Publication Manager and the ease of navigating it.”
- “This is a very useful tool. Thanks!”

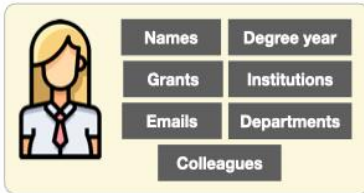
One program manager successfully used Publication Manager to track the academic output of faculty and medical student co-authors who participate in the WCM's Areas of Concentration program.

This feedback satisfied the departmental leadership and led to the promotion of the code from alpha to beta on GitHub and the transition of the application into production at WCM, expected to occur on or around April 15, 2023.

Figure 1. The updated version of ReCiter Publication Manager is part of the ReCiter suite of applications.

HOW RECITER WORKS

1. Use institutional systems to create a scholar's identity



2. Use identity to retrieve candidate articles from PubMed & optionally Scopus



3. Use machine learning to estimate the likelihood a scholar wrote each article

+3.21 points	Department
-1.73 points	Institution
+3.28 points	Author name
+2.33 points	Field of journal
+1.12 points	Colleagues
-2.10 points	Degree year
+0.2 points	Gender
+1.21 points	Grant

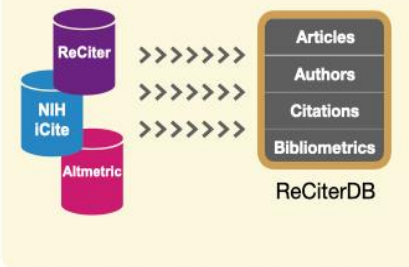
70%

4. Collect feedback from librarians, department staff on most likely articles



ReCiter Publication Manager

5. Retrieve data from ReCiter and third-party sources like NIH's iCite and Altmetric to populate a reporting database



6. Using web interface, reporters generate reports including a narrative bibliometric summary

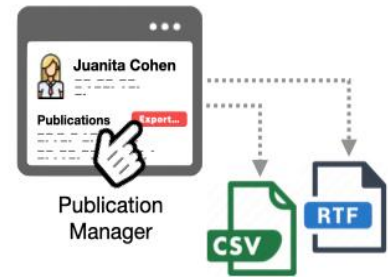


Figure 2. Publication Manager allows users to limit publications by several criteria including author name and position (e.g., first, last).

ReCiter Publication Management System Signed in as paa2013 [Logout](#)

> Create Reports

Author Filters
Author Organization Institution Person Type **Author Position**

Article Filters
Date Type Journal Journal Rank **Search** [Reset](#)

165 articles **Sort by** **Export to CSV** **Export to RTF**

Show records ◀ Page 1 of 9 ▶

The Id proteins and angiogenesis.
Robert Benezra, **Shahin Rafii**, David Lyden
Oncogene • 2001 Dec 20 • Review
PMID: [11840326](#) • Citation count (NIH): 182 • Percentile Rank: 86.4 • Relative Citation Ratio (NIH): 3.18 • Journal Rank: 3.395

Contribution of marrow-derived progenitors to vascular and cardiac regeneration.
Shahin Rafii, Sarah Meeus, Sergio Dias, Koichi Hattori, Beate Heissig, Sergey Shmelkov, [...] **David Lyden**

Figure 3. Users can also export RTF documents in which selected authors' names have been bolded.

1. Lucotti S, Kenific CM, Zhang H, **Lyden D**. Extracellular vesicles and particles impact the systemic landscape of cancer. *The EMBO journal*. 2022;41:e109288. PMID: 36052513. [Full text](#).

2. Price DR, Benedetti E, Hoffman KL, Gomez-Escobar L, Alvarez-Mulett S, Capili A ... **Rafii S**. Angiopoietin 2 Is Associated with Vascular Necroptosis Induction in Coronavirus Disease 2019 Acute Respiratory Distress Syndrome. *The American journal of pathology*. 2022;192:1001-1015. PMID: 35469796. [Full text](#).

3. Gómez-Salineró JM, Izzo F, Lin Y, Houghton S, Itkin T, Geng F ... **Rafii S**. Specification of fetal liver endothelial progenitors to functional zoned adult sinusoids requires c-Maf induction. *Cell stem cell*. 2022;29:593-609.e7. PMID: 35364013. [Full text](#).

4. Guo P, Liu Y, Geng F, Daman AW, Liu X, Zhong L ... **Rafii S**. Publisher Correction: Histone variant H3.3 maintains adult haematopoietic stem cell homeostasis by enforcing chromatin adaptability. *Nature cell biology*. 2022;24:279. PMID: 35058593. [Full text](#).

5. Guo P, Liu Y, Geng F, Daman AW, Liu X, Zhong L ... **Rafii S**. Histone variant H3.3 maintains adult haematopoietic stem cell homeostasis by enforcing chromatin adaptability. *Nature cell biology*. 2021;24:99-111. PMID: 34961794. [Full text](#).

6. Itkin T, **Rafii S**. Cardiovascular diseases disrupt the bone-marrow niche. *Nature*. 2022;601:515-517. PMID: 34949859. [Full text](#).

7. Gomez-Salineró JM, Itkin T, **Rafii S**. Developmental angiocrine diversification of endothelial cells for organotypic regeneration. *Developmental cell*. 2021;56:3042-3051. PMID: 34813766. [Full text](#).

Welcome back

5166 words English (United States)

Focus

Sharing with the community

The WCM team has described this work at conferences and via web-based demos including:

- Invited speaker, 2022 Cancer Center Administrators Forum, “Let’s make Publications Management a little easier (and more powerful) with ReCiter” <https://doi.org/10.6084/m9.figshare.19437941.v1>
- Invited speaker, 2022 Association of American Medical Colleges, Group on Information Resources, “ReCiter: A machine learning system for maintaining and analyzing researchers’ publication lists” <https://doi.org/10.6084/m9.figshare.20171171.v1>

Publication Manager was always intended to benefit other institutions, and the open-source code for the application can be downloaded from: <https://github.com/wcmc-its/ReCiter-Publication-Manager>.

The team would appreciate opportunities to present this work at any LYRISIS-mediated forums and to connect with any potential implementers.

Future work

Upon the official launch of ReCiter Publication Manager, the team plans to initiate a campus-wide marketing campaign to encourage its adoption among departmental users for their reporting needs. During the operational phase, the team will address any errors and accommodate minor functionality requests that may emerge.

Beyond these efforts, the WCM team is actively supporting other institutions as they implement Publication Manager. Several have already suggested optimizations to the functionality of the application.

Conclusion

In conclusion, the project effectively accomplished its objectives, and the team acquired valuable knowledge in developing complex applications and transitioning between developers. ReCiter Publication Manager will provide benefits to faculty and departmental users at Weill Cornell Medicine, and the team intends to refine and broaden its features in the future.

Roles

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- Sarbajit Dutta - developer, ORCID Id: 0000-0002-7843-6803
- Judy Gabeskiria - developer, ORCID Id: 0009-0006-5508-8689
- Mohammad Mansour - manager, ORCID Id: to provide
- Phillip Lamont - project manager, ORCID Id: 0009-0002-7941-3053
- Terrie Wheeler - supervisor, ORCID Id: 0000-0003-2933-3696