CHAPTER 15

THE OPEN TECHNOLOGY SPECIALIST
AT THE UNIVERSITY OF TORONTO LIBRARIES: A COMPREHENSIVE APPROACH TO WIKIMEDIA PROJECTS IN THE ACADEMIC LIBRARY

Jesse Carliner1 and Ji Yun Alex Jung1

1 University of Toronto

Abstract

Wikipedian-in-Residence (WIR) programs are becoming more common in academic libraries. Although they hold a great deal of promise, they are often limited in scope given their frequently short-term and sometimes part-time nature. After a successful one-year, part-time WIR pilot, the University of Toronto Libraries (UTL) has piloted a one-year, full-time Open Technology Specialist (OTS) role to build upon the WIR's accomplishments and allow for a more comprehensive approach to Wikimedia activities in the library. Through extensive research, outreach, and relationship-building, the OTS has considerably expanded the scope of WIR's activities to advance a wide range of institutional strategic priorities for the long term. In line with UTL's commitment to barrier-free access to all of the right information, the OTS incorporates Wikimedia activities into existing workflows across the library system in ways that prioritize support for historically excluded communities and collections while being sensitive to issues of access.
and description. In its pilot year, the OTS has created a network out of previously isolated Wikimedia engagement across the library system, trained staff, and volunteers across and beyond UTL, and helped launch formal projects that deepen institutional engagement. The OTS has also continued to contribute to Wikipedia, expanding their editing scope to the appropriate use of archival sources and the development of tools, which help bridge the gap between Wikipedia and Wikidata. Through the OTS, UTL has systematically deepened its contributions to the open Web. The UTL OTS pilot experience has demonstrated that positions dedicated to engagement in Wikimedia or other open technologies hold a great deal of potential and are worthy of further consideration for ongoing investment of staff and budget resources by academic libraries.

**Keywords**

Open Technology, Wikimedia, Academic Libraries.

**Introduction**

The University of Toronto Libraries (UTL) established an instance of a GLAM-Wiki (Galleries, Libraries, Archives, and Museum) with the launch of a Wikipedian-in-Residence (WIR) program in 2018. Initially launched with the explicit goal of facilitating Wikipedia-based access to UTL’s special collections, the GLAM-Wiki project evolved to include a range of Wikimedia activities such as events, development of toolkits, and editing and article creation. UTL expanded the project in December 2019 into a full-time pilot position dubbed the Open Technology Specialist (OTS). The OTS has enabled UTL to considerably expand activities beyond the WIR, in order to advance a wide range of institutional strategic priorities. The OTS has further expanded training for staff members through editing events and consultations, made accessible documentation available to current and future staff, and incorporated Wikimedia activities into existing workflows across the library system.

In this chapter, we will describe the history of Wikimedia activities at UTL within the context of the institution’s support for linked and open-access infrastructure. We will describe how the WIR position
evolved into the OTS, and how the OTS enables a sustainable and comprehensive approach to Wikimedia activities in the academic library. Finally, we will discuss how Wikimedia activities have been incorporated into existing workflows and reflect on the impact of these activities.

Background

Located in Toronto, Ontario, Canada, the University of Toronto (U of T) is a public, research intensive university with three campuses in the greater Toronto area. From 2018 to 2019, the university had a total enrollment of 93,081 students and 21,556 faculty and staff (University of Toronto, n.d.). The UTL system is the largest academic library in Canada and is consistently ranked among the largest of its peer institutions in North America according to the Association of Research Libraries Investment Index (Morris & Roebuck, 2019). The system consists of forty-two libraries, with around 500 librarians and paraprofessional staff members and supports the teaching and research requirements of the University of Toronto's more than 980 programs of study (University of Toronto, n.d.). Eighteen central libraries directly report to the UTL chief librarian, while the remaining libraries report to their college, campus, and departmental administration. In addition to more than 15 million volumes in 341 languages, the library system currently provides access to millions of electronic resources in various forms and over 31,000 linear meters of archival material.

Open Access and Open Digital Collections at UTL

UTL has for many years engaged in open-access initiatives, leading to the creation of the UTL Scholarly Communications and Copyright Office (SCCO) in 2013. The UTL SCCO helps researchers make their research available through open access, thereby improving the impact of their research and supporting researchers around the world who may not otherwise have access to this scholarship. UTL also operates TSpace, an open-access repository. Research deposited
into TSpace is freely available via Google Scholar and other search engines, but findable only to a limited extent without the help of Wikipedia’s reference.

In addition to supporting open-access publication of university-produced research, UTL has created numerous digitized special collections that are freely available online. A great deal of staff resources and infrastructure go into creating and maintaining these digital collections, but they are not easily discoverable on the Web unless made to be so. Notable examples include *The Discovery and Early Development of Insulin Collection* and the *Wenceslaus Hollar Digital Collection*. Initially, discovery and use of UTL’s digital collections had primarily relied on search-based traffic or traditional library marketing strategies like social media and website news items. Some of the resources had also been promoted at library workshops and in relevant research guides. However, these strategies did not create sustained growth of collections use. Increases in traffic would usually only be temporary—perhaps indicating a sporadic influx of curious users who were not actively researching the topic.

By contrast, collection items linked to Wikimedia projects were found and used more readily by the average web user. Over the years, editors not affiliated with the library had linked or uploaded collection items to Wikipedia and Wikimedia Commons. These links have more effectively brought these collections within reach of the average web user, and in the appropriate information-seeking context. These edits, in combination with GLAM-Wiki familiarity on the part of pioneering staff, made for a basic proof of concept for a more organized effort to deepen UTL’s Wikimedia contributions.

**Wikipedia Initiatives at the UTL**

Beyond some sporadic Wikimedia engagement by library and archives staff throughout the UTL system, the first systematic pilot of Wikimedia activities took place in the summer of 2018. A librarian and an intern in the information technology department carried out a pilot project to assess the impact of Wikipedia contributions on the use of digital...
collections. Selected items from the *Wenceslaus Hollar, Agnes Chamberlin*, and *Anatomia* collections were linked to the English and German Wikipedia through citations, external links, and images. Usage statistics showed that Wikipedia edits had significantly increased and sustained traffic to these collections, suggesting that Wikipedia edits had been more effective at improving collections access than the use of traditional library news items and social media. In particular, images uploaded from the *Anatomia* collection demonstrated the value of adding collections material as visual aids to highly visible Wikipedia articles.

Based on the successful summer pilot, the UTL chief librarian funded a year-long WIR pilot for the 2018–2019 academic year. The pilot was launched with the explicit goal of facilitating Wikipedia-based access to UTL’s special collections but also to support editing events and create toolkits that others could repurpose for their own events. Due to UTL’s labor environment, the WIR position was posted as a part-time graduate student library assistant (GSLA) position. All University of Toronto graduate students were eligible to apply to the posting, and of the thirty-five applicants, only two had prior Wikipedia editing experience.

During the year-long pilot, the WIR activities fell into three broad categories—creating a work plan and infrastructure around their activities, carrying out the activities, and then developing documentation for a successor to carry on the work of the pilot. The WIR initially developed their plan of work through an environmental scan of more than fifty institutional WIR positions, examining their best practices and activities. The environmental scan also reviewed the summer pilot and lessons learned, including approaches to editing, project documentation, collections of focus (e.g., Chamberlin, Hollar), discussion on sources and copyright (especially in relation to images), and resources for learning. Next, the WIR identified strengths of the UTL digital collections and collection themes, looking for collections that would be appropriate for citation in Wikipedia. Factors considered in selecting a digital collection to work with included status (is the collection still maintained?), location (where is the collection hosted?), ease of use, copyright, content sensitivity, notability, and overall “Wikipedia friendliness” of content. Some digital collections were judged more Wikipedia-friendly than others in the kinds of material they contained
and in the availability of reliable secondary sources that provide a basis for interpretation. In some cases, digital collections were reserved for future collaboration given their potential to perpetuate harm to user communities in the absence of adequate historical understanding and relational work.

*The Discovery and Early Development of Insulin Collection* was chosen as the focus of the WIR pilot for three reasons: It was deemed to be “Wikipedia-friendly”; it was likely to be of broad public interest given the 100th anniversary of the discovery of insulin (2021–2022); and it was considered a premiere collection given its inscription into the UNESCO Memory of the World register (*The Discovery of Insulin and Its Worldwide Impact* | United Nations Educational, Scientific, and Cultural Organization, n.d.). Over the course of the pilot, the WIR verified Wikipedia's existing content on the topic, updating and adding citations as appropriate. They also added comprehensive articles and sections on notable but unwritten histories adjacent to the collection, including the history of diabetes and institutions such as the Connaught Laboratories and the Academy of Medicine of Toronto. Some of these contributions have since played a crucial role in public discourse. In late November 2020, the Connaught Laboratories article came to public attention in the context of COVID-19 response shortcomings, “vaccine nationalism,” and damage to Canadian vaccine production capacity suffered as the result of the Labs’ privatization in the 1980s. Page views increased 500 to 1,000-fold as the Wikipedia article was shared widely.

In addition to edits based on the Discovery of Insulin collection, the WIR also provided community guidance on Wikipedia-related matters, facilitated events, and developed editing and event hosting toolkits for broader use. Regular analytics assessments have demonstrated sustained increases in UTL’s digital collection usage, as well as increasing correlation between Google search traffic and traffic to the Discovery of Insulin collection. At the time of writing (November 2020), UTL’s digital collection usage has increased—in comparison to the average for the year-long period before Wikipedia contributions—by a multiplier of 4.87 in earlier months (with only external links) to 9.35 (after more research-intensive contributions) in linked
collections. Figure 1 reflects this increase in usage as well as increasing correlation between Google search traffic and usage of the Discovery of Insulin collection based on the keywords “insulin discovery.” Collection usage began to increasingly reflect search traffic as external links (July 2018) and detailed citations (December 2018) were added. While there are multiple paths in a user’s journey from search results to a UTL digital collection involving any number of Wikipedia articles and non-Wikipedia sites, this correlation speaks to the bidirectional impact of the WIR’s contributions to in-Wikipedia collections discovery as well as increased library website visibility gained through the numerous inbound links generated by this work. It would be difficult to be more discoverable at any given moment than the levels of interest at that time as indicated by Google Trends, insofar as the average web user relies on search engines to find resources, and insofar as Google dominates the search engine market at 92.16 percent worldwide in November 2020 (Search Engine Market Share Worldwide | StatCounter Global Stats, n.d.).

The Open Technology Specialist

Based on the demonstrated potential of the part-time WIR position, UTL established a full-time pilot of the OTS in December 2019 at the direction of the chief librarian. The full-time OTS role would build on the work of the WIR with a more comprehensive scope of activities and
objectives. Most importantly, the OTS position would support research and learning at the University of Toronto by improving discoverability of UTL resources and collections—primarily through Wikimedia projects during the pilot—and by building community capacity for participation in these initiatives. The job posting highlighted the potential for the OTS to enable a more comprehensive, coordinated, and systematic approach to engaging in Wikimedia activities. In addition to the WIR activities, the OTS would promote participation in new or existing WikiProjects related to UTL holdings; support the U of T staff and community in their use, participation in, and understanding of Wikimedia; and identify and engage in other collaborative open technology initiatives. Finally, the OTS job posting emphasized that, where possible, programming and initiatives should advance the UTL’s commitment to equity, inclusion, and diversity.

Throughout the first ten months of the pilot, the OTS has further advanced the UTL strategic goals of “barrier-free access to all of the right information” to “build physical and digital infrastructure to make our library collections effortlessly accessible” (UTL Strategic Plan 2020–2025, 2020) by making it easier for UTL—as well as the broader Toronto and GLAM-Wiki community—to enrich the free Web. The OTS role, in practice, grants capacity for UTL to holistically assess the uses and limits of Wikimedia projects as tools and to apply them strategically in ways that make sense to different library departments and functions. It functions as a translator between the broader movement toward open technologies, including GLAM-Wiki, and the library’s existing constellation of people, relationships, and practices. If the UTL WIR’s workflows were largely self-contained, with minimal engagement with other staff and units, the OTS has expanded this scope through a combination of research, communication, documentation, and internal and external relationship-building, in order to achieve sustained impact.

**Deeper Resource Integration**

Previous pilots at UTL had demonstrated the impact of linking library resources to Wikipedia, and of contributing narrative content on the
basis of those links. Building on those accomplishments, the OTS has enabled deeper resource integration into Wikipedia in a number of ways.

First, the OTS has explored contribution using a greater breadth of sources from UTL. In particular, they have experimented extensively with the use of archival material and finding aids, to the extent that no interpretation is added by the editor. These sources are less understood in the context of Wikipedia yet invaluable for their potential to ground less visible topics that might otherwise go uncharted due to a lack of accessible citations. These efforts have yielded the contribution of Wikipedia biographies on important figures in the peripheries of popular knowledge—such as those of scholar-activists Rodney Bobiwash and Roxana Ng—for whom secondary source coverage had been sparse, particularly in digital format.

Second, UTL is moving beyond single-event contributions into maintenance of resource links on Wikipedia. Whereas Wikipedia has accumulated upward of 3,600 links to UTL through both third-party and library-initiated contributions, an estimated 40 percent of these links have expired over time and no longer direct users from Wikipedia to the intended pages. The OTS has begun to update these links, using persistent identifiers where possible in order to future-proof contributions.

Third, the OTS has begun to develop mechanisms for sustainable contribution to Wikipedia, which build on UTL’s contributions to

![Archives at University of Toronto](https://example.com/archives)

**Figure 2** Template:Archival records.
The Open Technology Specialist at the University of Toronto Libraries

Wikidata. Among other uses, Wikidata has the function of simplifying data maintenance for library information on the Web. One such mechanism is a Wikipedia template for use in the External links section (Template:Archival records), which syncs dynamically to Wikidata. This “sync-piece” builds directly on Wikidata contributions from prior months by the Digital Initiatives librarian and her intern and has the effect of manifesting their infrastructural work to a more general audience. The template links to a Wikipedia help page (Help:Archival materials), also developed by the OTS, which is an introductory guide to archival sources and their use in research and in Wikipedia editing. The template has been similarly helpful to others in the GLAM-Wiki world also working with archival material, as indicated by the near-500 articles that link to the template at the time of writing.

Library Capacity-Building

The OTS has built capacity for UTL staff participation based on the understanding that open, Web-based projects such as Wikipedia are foremost tools that allow library staff to better serve their respective communities by eliminating barriers to information access. Since the promise of linked open knowledge facilitated by Wikimedia platforms means different things to different libraries and functions, the OTS provides flexible support across departments, libraries, archives, and the university in ways that appropriately situate (and observe the limits of) Wikimedia platforms in each area according to their unique set of needs. For example, collaboration with subject liaisons demonstrates the potential of Wikimedia engagement as a core competency in information literacy or as a pedagogical tool. Support for IT and metadata infrastructure engages in Wikimedia projects that build upon past and ongoing efforts around linked data and custom ontologies. Meanwhile, community programming involving staff, students, and other volunteers across Toronto help balance histories and knowledge on Wikipedia by highlighting archival collections from historically excluded communities while being sensitive to issues of access and description.

The OTS has therefore helped interested parties determine their scope and method of engagement with Wikimedia projects with
minimal hassle and maximal impact. For example, staff at the Music Library Archives were rapidly equipped (over the course of two meetings) to complete an initial set of contributions by adding collections information to Wikipedia biographies. Where possible, the OTS has delivered training and workshops, which demonstrate step-by-step workflows and situate those activities in the context of the Web and its discovery mechanisms. As of October 2020, more than fifty staff across all three U of T campuses had benefited from these workshops. Moreover, these trainings have themselves been opportunities for collaboration with other staff and interns, contributing to experiential learning at UTL in ways that integrate the Web into library production. Through these collaborations, the loose network of interested staff at UTL has rapidly come to cocreate clear descriptions and starting points for linked open knowledge projects.

The OTS has built bridges across campuses and departments to identify and connect interested staff for open technology engagement. The result is a loose network of staff who now share and receive updates through an open technologies email listserv and participate in various working groups, some of which span multiple library units. In general, the OTS capacity to bring together and logistically support interest groups has been key to developing momentum on multiunit collaborations, which might otherwise become deprioritized over time.

The impact of the move from WIR’s relatively self-contained approach to the OTS’s intentionally inclusive approach at UTL is fourfold. Most immediately, each resource thoughtfully contributed to Wikipedia becomes more useful to the web user, and in the appropriate context. The OTS actively works to increase the number of such contributors. Second, these contributions gain further significance where they also help balance inequities in knowledge representation. By pursuing work across the library system that enables fair and dignified knowledge production and discovery for all, the OTS builds another layer of consistency in the university’s move toward equity. For example, the very first collaborative event (February 2020) with staff from University of Toronto Scarborough Library and Toronto Public Library contributed accessible coverage of Toronto’s vastly underrepresented
Black history (Russell, 2020). The OTS now builds on this past initiative to bring multiple libraries together for a broader and more intentional effort to improve the coverage of local Black histories through February 2021. Third, through the OTS, the library has gained capacity to better assist the university in communicating its research to the broader public. This had been explored through a collaboration with the library’s Scholarly Communications office and the Sophie Lucyk Virtual Library, a digital collection of research from the Factor-Inwentash Faculty for Social Work hosted on TSpace (The Sophie Lucyk Virtual Library | TSpace Repository, n.d.). And fourth, UTL’s Wikimedia contributions to date have been doubly helpful to staff as accessible, comprehensive reference for special collections (Wikipedia) and as a hub for institutional data creation and maintenance across the large, decentralized library system (Wikidata).

Engagement beyond the Library and University
The broadly beneficial nature of the OTS approach allows the training, workshops, documentation, and consultation capacity generated by the role to enrich networks beyond the institution. This aligns with the University of Toronto’s institutional goals and priorities to “leverage [the University’s] urban location(s) more fully, for the mutual benefit of University and City” (Gertler, 2015). The OTS has therefore collaborated with staff from Toronto Public Library and the Ontario Science Centre, advised projects at the City of Toronto Archives, and trained volunteers at The ArQuives, Canada’s LGBTQ2+ Archives located in Toronto, Ontario. Some collaborations have even extended beyond the Greater Toronto Area, as in the case of the Ontario Wikipedia Edit-a-thon during Ontario’s Open Education Week (March 2–6, 2020) jointly led by staff at Fleming College and Mohawk College.9

The OTS also cofacilitates regular, cross-institutional programming through the LD4-Wikidata Affinity group. Through this network-building, the OTS has been able to bring more UTL staff into broader library community updates, including Program for Cooperative Cataloging (PCC)’s ongoing, one-year Wikidata pilot, by which no less than four projects across two U of T campuses are underway at the time of writing.
Conclusion

The impact of the OTS pilot so far demonstrates that a full-time position dedicated to Wikimedia and other open technology projects holds great potential to better link open-access library resources and archival and special collections to the Web. By enabling consistent support for Wikimedia activities, staff across UTL’s large and decentralized system have been empowered to meet their users where they are and increase discovery and use of their collections with greater ease. This sustained staff development resulting in high-impact benefits to library and institutional priorities have come at a low cost, requiring only the flexible investment of staff time.

Beyond experimentation, open technology engagement requires extended support and maintenance in order to achieve lasting impact. WIR and OTS programs can be piloted to explore Wikimedia activities in the library and to introduce those activities to library staff when and where appropriate, laying the groundwork for additional investment of staffing resources and the incorporation of Wikimedia activities into existing workflows and job portfolios.

Notes

1 For example, many artifacts in the *Discovery and Early Development of Insulin* collection are published material (e.g., articles and newspaper clippings), which can be cited with minimal interpretation. This collection also benefits from readily available secondary sources that make sense of the collection and offer the reader an opportunity to cross-reference the published histories with the original sources.

2 For collections such as *The Barren Lands: J. B. Tyrrell’s Expeditions for the Geological Survey of Canada, 1892–1894*, the WIR had found it necessary to cultivate capacity for edits informed by Indigenous perspectives, and to do so in collaboration with concerned communities.


5 As a general statement, Wikipedia is an unparalleled general information source for the everyday Web user in magnitude and use. More concretely in university settings, studies have consistently demonstrated students’ heavy reliance on Web search engines and on Wikipedia. See Weber et al. (2018) for a relatively recent German study containing a literature review and Bury (2011) for a study from York University.

6 Data maintenance—of links to material and corresponding descriptions—is imperative to keeping information accessible and up-to-date in the long run. Wikidata, an open and collaboratively edited database “of all things” by the Wikimedia Foundation, is interesting in this light since it provides an easy and open interface for persistent description, which can serve as a single access point for data maintenance.

7 The template and documentation are available on: https://en.wikipedia.org/wiki/Template:Archival_records

8 An up-to-date list of articles linking to Template:Archival_records can be viewed on: https://en.wikipedia.org/w/index.php?title=Special:WhatLinksHere/Template:Archival_records&namespace=0.

9 Formal edit-a-thon collaborations in 2020 include: International Day of Women and Girls in Science edit-a-thon at the Ontario Science Centre (https://rascto.ca/content/ontario-science-centre-international-day-women-and-girls-science) and Ontario Wikipedia edit-a-thon for Open Education Week (www.openeducationweek.org/events/ontario-wikipedia-edit-a-thon).

References


SECTION 4
WIKIPEDIA SISTER PROJECTS