

17th Semantic Web in Libraries Conference

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SWIB's Influence on One's Research and Practice Over the Past Ten Years

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Hello. My name is Anchalee Panigabutra-Roberts, Head of Cataloging at the University of Tennessee Libraries on the flagship campus in Knoxville, Tennessee. Today I will share with you how the Semantic Web in Libraries conferences have influenced both my practice and my research agendas over the past ten years.

Outline



Introduction



Timeline



Key concepts from projects



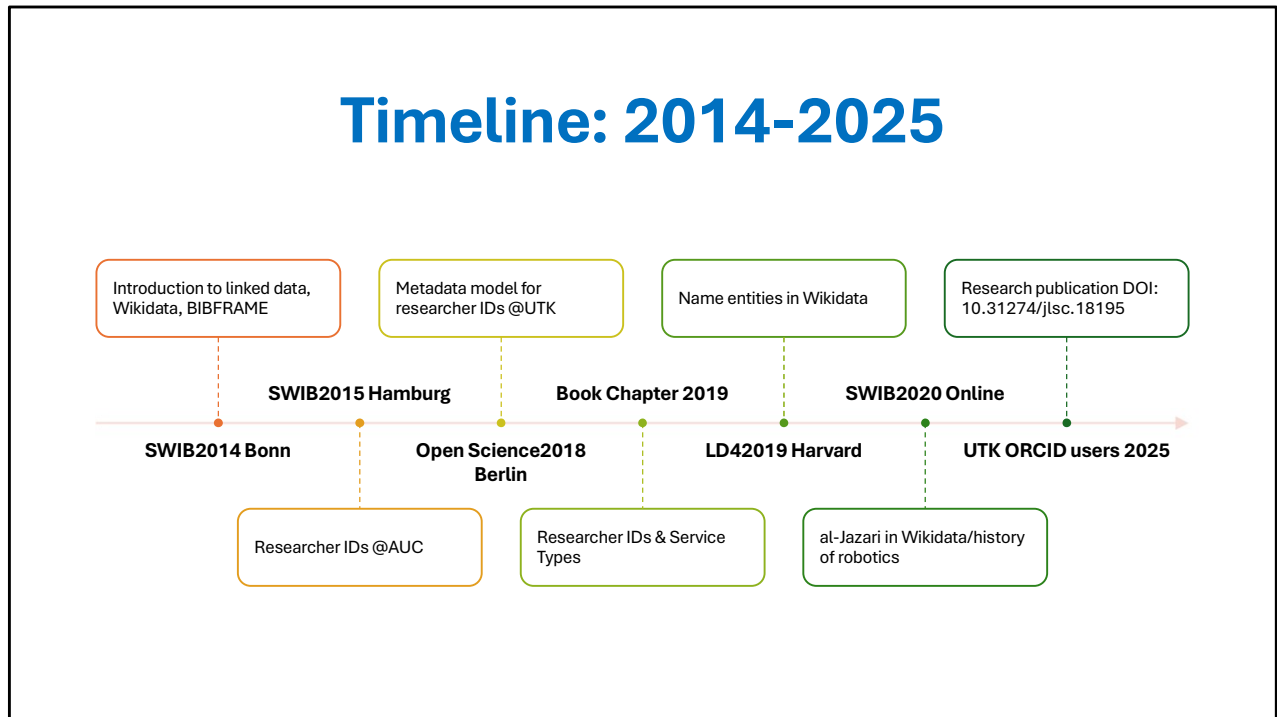
Lessons learned

The focus of my presentation today is to share with you the timeline of my participation in SWIB conferences and their impact on both my research and practices over the years.

SWIB's unique communities and forum on Linked Open Data (LOD) in libraries and related organizations helped us learn deeper about Linked data and the diverse applications we can apply in our own practices and research agendas.

I hope my case is a testament on SWIB's benefits and to also share my gratitude for what SWIB has offered to me over the years.

Timeline: 2014-2025



This timeline represents some of the key presentations and publications impacted by my first lesson on Semantic Web and linked data from SWIB 2014 conference in Bonn, with more presentations not included here. The highlights included SWIB Conference in 2014 where I learned about linked data and Semantic Web with a hands-on workshop from creating the dataset and writing the query on the data, SWIB 2015 where I presented on my findings on researcher identifiers and linked data used by the faculty at the American University in Cairo Libraries, Open Science Conference in 2018 to assess the metadata model based on the metadata elements used by researcher identifier systems. In 2019 at Linked Data in Libraries or LD4 Conference, I presented on my experience with learning and creating Wikidata name entities and data visualization applications in Wikidata. In the same year my book chapter on researcher identifiers and their service types was published with the results from AUC study presented at SWIB2015 included in the chapter. In 2020 I continued exploring Wikidata as linked data to trace the history of robotics back to al-Jazari, the mathematician, engineer, artist and inventor from the [Artuqid Dynasty](#) of [Jazira in Mesopotamia](#) from the 12th Century.

Earlier this year, my research on ORCID users at UT Knoxville got published in a peer-reviewed journal and I presented on this study's findings at NISO Plus Global/Online Conference and Coalition for Networked Information's Pre-Recorded Project Briefing Series earlier this year. Reflecting on these strings of events made me realize the impact of SWIB conferences as a major platform for my learning and sharing about linked data and researcher identifiers over the years. In the following slides I will share more details about what I have learned over the years re Linked data and researcher IDs as linked data.

SWIB2014 @Bonn

Hands-on Workshop on Linked Data

Resource Description Framework (RDF)
Graph-based data model represented as triples

SPARQL query language for graph-based data
in triple store (e.g., in RDF format)



<https://www.w3.org/TR/rdf11-concepts/>

```
PREFIX foaf: <http://xmlns.com/foaf/0.1/>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>

SELECT ?name ?ortname WHERE {
  ?person1 foaf:knows ?person2 .
  ?person2 foaf:name ?name .
  ?person2 foaf:based_near ?ort .
  ?ort rdfs:label ?ortname .
}
```

https://swib.org/swib14/slides/ostrowski_swib14_45.pdf

My journey on exploration and application of linked data began at SWIB2014 Conference where I learned about Semantic Web, linked data and Wikidata for the first time. I learned the concept of linked data and its application firsthand via the workshop, Introduction to Linked Open Data by [Felix Ostrowski](#) / [Adrian Pohl](#) .

This workshop was tremendously helpful to get a deeper understanding on how linked data works with hands-on coding and writing queries to see the results.

We used the RDF Turtle that allows writing down an RDF graph in a compact textual form. We also learned how to use SPARQL query to retrieve the data from a triple store.

I also learned about Wikidata, BIBFRAME and schema.org for the first time at this conference.

In the subsequent years, both Wikidata and BIBFRAME had the actual impact on my work and research agendas.

SWIB2015 @Hamburg Researcher IDs @AUC

RQ: How best can we represent
AUC faculty and their scholarly
and creative works as Linked
Data?

✓ LCNAF, VIAF, ISNI, ORCID
with SCOPUS are
making a good effort to link
authors' identities to their
publication profiles.



Library of Congress Name Authority File
(LCNAF)



Virtual International Authority File
(VIAF)



International Standard Name Identifier
(ISNI)



ResearchGate



Google Scholar

Next at SWIB 2015 conference, I returned to present on:

“Researcher identity management in the 21st Century networked world: a pilot study of American University in Cairo faculty.”

http://swib.org/swib15/slides/panigabutra_researchers.pdf

The research goal is to explore how best to represent the faculty and their scholarly and creative works as Linked Data.

While the findings highlights the dominance of LC name authority, it led to my findings on the scholars' usage of ORCID and Scopus. This work is a basis for my future research and publications on researcher identifiers in general, and later with emphasis on ORCID as the main identifier.

[Research questions:

1)How have the faculty at the American University in Cairo (AUC) distributed and shared their scholarly and creative works?

2)How are their names identified in various author identifier systems and/or on the Web?]

Open Science Conference 2018 @Berlin

Researcher IDs for UT Knoxville

Exploring the metadata model for researcher profiles in the linked data environment

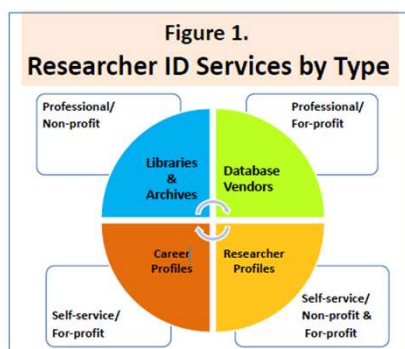
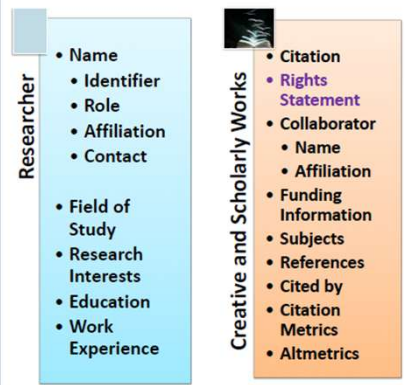


Figure 2.
Key Metadata Elements



In 2018, I presented a poster at Open Science Conference in Berlin on: [“Researcher Identifiers, Metadata and Scholarly Communication in the Linked Data Environment: The Implication for University of Tennessee, Knoxville.”](#)

Based on the SWIB2015 conference, I look the differences among researcher identifiers particularly on their metadata elements.

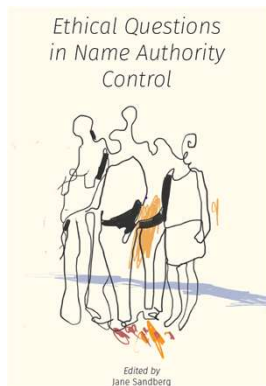
I collected the data on the metadata elements used by the key and popular researcher identifier systems at the time, which are the Library of Congress Name Authority File, Virtual International Authority File, International Standard Name Identifier or ISNI, ORCID, SCOPUS, ResearcherID, Google Scholar, Microsoft Academic, ResearchGate, Academia.edu,

Mendeley, LinkedIn, Symplectic Elements and PIVOT.

I identified the commonly used metadata elements among these identifier systems with the conclusion that the metadata elements **vary** based on the type of service, professional or self service, the type of organization hosting the service and its business model, that is not-for-profit or for-profit organizations.

These typologies help us understand how the data are open-access and on the **Data access and rights** of the researchers for their data within these systems and of libraries and archives for archiving these data, And the **Openness of data and the interoperability** among these systems.

Book Chapter 2019 Researcher IDs & Service Types



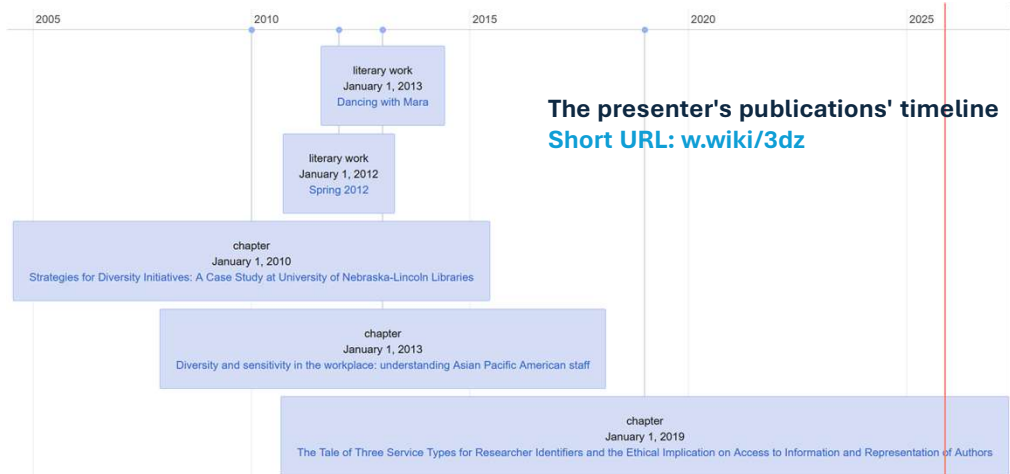
Self-Registered Services	For-Profit Professional Services	Non-Profit Professional Services
ORCID	SCOPUS	LCNAF
ResearchGate	ResearcherID	VIAF
Google Scholar		ISNI

Table 3. The Three Service Types in Researcher Identifier Systems and Examples

*See **SWIB2015**

Combining the AUC faculty's study presented at SWIB 2015 and the poster session at Open Science Conference in 2018, I wrote the book chapter "The Tale of Three Service Types for Researcher Identifiers and the Ethical Implication on Access to Information and Representation of Authors." In the book [*Ethical Questions in Name Authority Control*](#), edited by Jane Sandberg and published by Library Juice Press in 2019.

Linked Data in Libraries (LD4) 2019 @Harvard



Name entities in Wikidata and tools within the platform

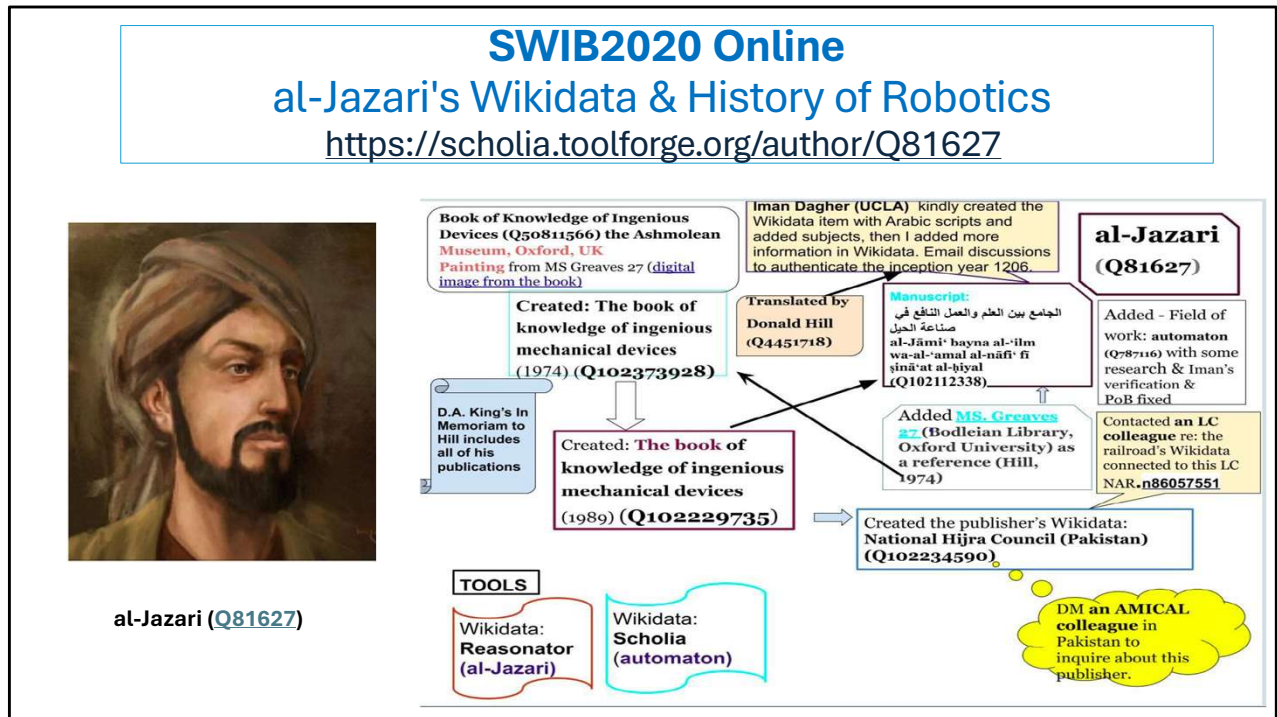
In 2019 I also started learning and creating Wikidata items.

I shared my experience in the lightning talk, “[An Experiment with Name Entities in Wikidata @University of Tennessee Libraries.](#)” at 2019 Linked Data in Libraries Conference in May at Harvard Medical School in Boston, Massachusetts.

I presented on my experience with learning and creating Wikidata name entities and data visualization applications in Wikidata.

This slide’s image is based on the Wikidata items I created for my publications that I used the Sparql query to visualize the timeline of my publications within the Wikidata platform. You can see the live data using the short URL I share on this slide.

In that presentation, I also shared how other data visualization tools in Wikidata, such as ORCIDator, Scholia and Reasonator, can be used to add ORCID identifiers and create the patterns and timeline of publications and scholarly communications.



In 2020, I came back to present a lightning talk online at SWIB Conference, on “[Building Wikidata One Branch of Knowledge at a Time: A Case of al-Jazari, Automaton and the History of Robotics.](#)”

I discussed how I used Wikidata as linked data to trace the history of robotics back to al-Jazari, the mathematician, engineer, artist and inventor from the [Artuqid Dynasty](#) of [Jazira](#) in [Mesopotamia](#) from the 12th Century.

This concept cloud displays the complexity of creating each Wikidata item, especially when dealing with non-Roman script, such as Arabic in this case, and the extensive research to confirm the data with their references, such as a manuscript from the Bodleian Library at Oxford University, to include in each Wikidata item.

UTK ORCID Users Study 2025 DOI: 10.31274/jlsc.18195

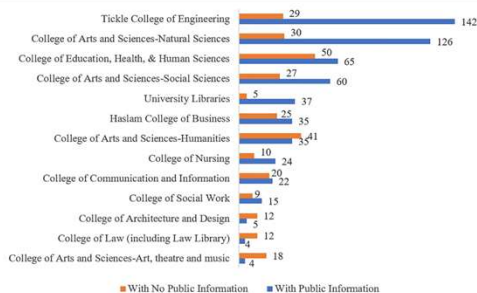


Figure 3. The number of UTK faculty's confirmed ORCID users with versus without public information by college and by division in the College of Arts and Sciences.

ETD2023
Conference

Author:

100 1_ |a Weir, Elise Anne, |e author |4 <http://rdaregistry.info/Elements/a/rdaa:P50541>
|0 (orcid)0000-0003-4681-8839 |1 <https://orcid.org/0000-0003-4681-8839>

Degree supervisor:

700 1_ |a Thistlethwaite, Morwen, |e degree supervisor.
|4 <http://rdaregistry.info/Elements/a/rdaa:P50091>
|0 (orcid)0000-0003-4890-0123 |1 <https://orcid.org/0000-0003-4890-0123>

From 2020 to 2025, I have focused on adding ORCID identifiers to our catalog and name authority records, both in our local Alma catalog and in OCLC WorldCat, especially for our ETD authors and their faculty advisors.

This practice started when our Cataloging Team's project got accepted into the LC Program for Cooperative Cataloging's URIs in MARC Pilot at the end of 2020. Since then we have been adding ORCID as supplied by the authors of ETDs and for their advisors, when available, to the catalog and authority records. I presented on this project and ongoing practice at *the 26th International Symposium on Electronic Theses and Dissertations in 2023* in INDIA.

I also got a research grant to support the study of **UTK ORCID users** that resulted in a published article in the *Journal of Librarianship and Scholarly Communication* in June this year; with two presentations based on this study for the *Coalition for Networked Information's Pre-Recorded Project Briefing Series Summer 2025* and at *NISO Plus Global/Online Conference* in September.

This study found the disciplinary differences among the ORCID users at UTK with engineering as the top user of ORCID users possibly due to engineering's having the highest expenditure of grant funding among other disciplines at UTK.

I also found that the faculty rank is also a major factor in the faculty's usage of ORCID users, especially among assistant professors on the tenure track.

You can find more details of my findings in the journal article.

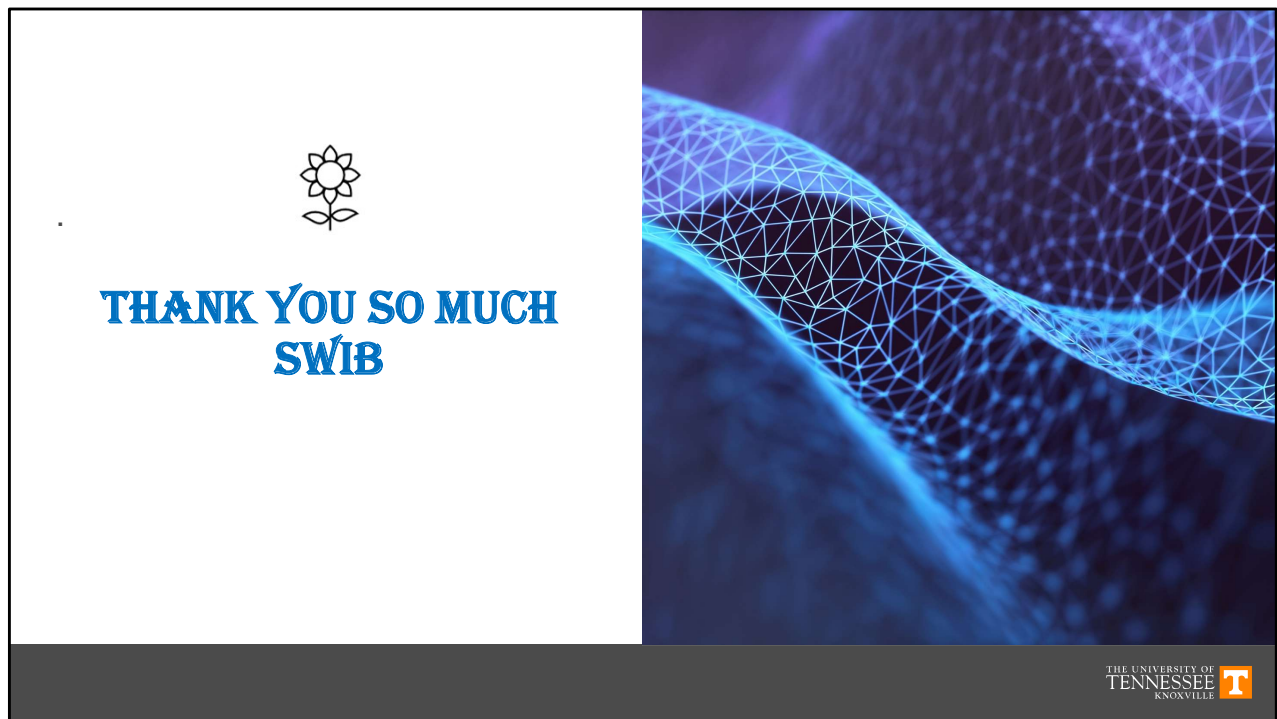
Publications and Presentations (1)

- “Researcher identity management in the 21st Century networked world: a pilot study of American University in Cairo faculty.” *Semantic Web in Libraries Conference 2015*, Bürgerhaus Wilhelmsburg, Hamburg, Germany, November 24, 2015. http://swib.org/swib15/slides/panigabutra_researchers.pdf
- “Researcher Identifiers, Metadata and Scholarly Communication in the Linked Data Environment: The Implication for University of Tennessee, Knoxville.” *Open Science Conference*, NH Collection Berlin Friedrichstraße, Berlin, Germany, March 13, 2018.
- “The Tale of Three Service Types for Researcher Identifiers and the Ethical Implication on Access to Information and Representation of Authors.” In *Ethical Questions in Name Authority Control*, edited by Jane Sandberg. Sacramento, CA: Library Juice Press, 2019.
- Panigabutra-Roberts, Anchalee. “An Experiment with Name Entities in Wikidata @University of Tennessee Libraries.” Lightning talk at *2019 LD4 Conference on Linked Data in Libraries*, Joseph B. Martin Conference Center at Harvard Medical School, Boston, Massachusetts, May 11, 2019.
- Panigabutra-Roberts, Anchalee. “Building Wikidata One Branch of Knowledge at a Time: A Case of al-Jazari, Automaton and the History of Robotics.” Lightning talk at the *12th Semantic Web in Libraries Conference* online, November 27, 2020.

I include the list of my publications and presentations relevant to linked data and researcher identifiers in this and the next slides.

Publications and Presentations (2)

- “Enhancing Catalog Records of Electronic Theses and Dissertations (ETDs) with ORCID Identifiers: A Case Study at the University of Tennessee Libraries.” Presentation at *26th International Symposium on Electronic Theses and Dissertations*, ETD2023, 26-28 October, 2023, INFLIBNET Centre, Gandhinagar, Gujarat, INDIA. <https://etd2023.inflibnet.ac.in/docs/PPT/IP4.pdf>
- “A Case Study of ORCID Users at the University of Tennessee, Knoxville.” Lightning Talk, *NISO Plus Global/Online Conference*, September 17, 2025. <https://nisoplusglobalonline.cadmore.media/Home>
- “Representing Researchers in the Library Linked Data Environment: A Case Study of ORCID Users at the University of Tennessee, Knoxville.” *Coalition for Networked Information's Pre-Recorded Project Briefing Series Summer 2025*. <https://www.cni.org/topics/electronic-theses-dissertations-etds/representing-researchers-in-the-library-linked-data-environment>
- “Representing Researchers in the Library Linked Data Environment: A Case Study of ORCID Users at the University of Tennessee, Knoxville,” *Journal of Librarianship and Scholarly Communication* 13, issue 1 (2025). doi: <https://doi.org/10.31274/jlsc.18195>



Over the years, ORCID identifier's users and Wikidata users and items continue to grow. ORCID has reach its 10 millionth user this year. <https://info.orcid.org/resources/orcid-statistics/>

And for Wikidata, it has been used to provide knowledge graphs for Wikipedia.

The Library of Congress's Program for Cooperative Cataloging also supports the use of Wikidata in both the cataloging and metadata workflows among its members. Locally for our library service platform, Alma and Primo VE, we activated the person entity knowledge cards connecting to their Wikidata and Wikipedia pages, so our catalog users can learn more about the authors and contributors of our materials.

We also continue to enhance our catalog records to add ORCID identifiers to our ETD authors' and their faculty's names in both the catalog and authority records in WorldCat and in our local catalog. I also served on the advisory board for **OCLC's WorldCat Entities Project** (<https://www.oclc.org/en/worldcat/entities.html>) that also linked authority entity data with the catalog and metadata records.

These are some of the impact on my practices and research from what I have learned from attending and presenting at SWIB and other linked data conferences.

They do have the real world impact on our library users and in our practices, as well as on my research agenda. **Thank you very much SWIB.** I look forward to my next return to share more ideas and to learn what's new in Semantic Web in Libraries.