



The rising STAR of Texas

Division of Library Collections and Digital Services
University Libraries, Texas State University
601 University Drive, San Marcos, Texas 78666

November 8, 2020

National Academies of Sciences, Engineering and Medicine
Workshop on Developing a Toolkit for Fostering Open Science Practices
Attention: Request for Public Comment

Dear Sir or Madam,

I have been attending the National Academies Roundtables on Open Science and would like to further develop my workshop comments. I would like to advocate for a digital ecosystems approach to developing an open science toolkit for fostering open science practices and the role academic research libraries may play in this project. Both these digital ecosystems and established academic library support infrastructures can richly enable new open science practices on global levels to provide research faculty and graduate students on research universities with established support infrastructure frameworks and easier pathways towards open science.

The simple larger idea is that a prescribed generalized network of open-source software components can powerfully enable faculty and graduate students' research. These digital ecosystems can raise research profiles on open global levels for better collaboration, sharing, access and retrieval. The generalized best practices model of the ecosystem being advocated consists of six open-source software components: two primary components (Research Data Repository and Digital Collections Repository) and four tertiary components (an Electronic Thesis and Dissertation Management System (ETD System), Identity Management System, Open Academic Journal Software and User Interface/Content Management Software. Taken together, this digital research ecosystem can programmatically enable large parts of the open science research cycle for researchers. On pragmatic levels, this research ecosystem enables the gathering, analysis, sharing, and discovery of scientific knowledge and research. On abstract levels, this system enables the quality assurance, dissemination and identification of new scientific knowledge and research.

Many academic research libraries already have individual examples of these software components currently in place. Associated support infrastructures have also begun to be worked out through research library digital services departments and research, information and outreach human resources departments /subject librarians) for universities to better facilitate and provide further development of these digital roadways for the faculty and graduate student research community.

UNIVERSITY LIBRARIES

601 University Drive | Albert B. Alkek Library | San Marcos, Texas 78666-4684

phone: 512.245.2133 | fax: 512.245.3002 | WWW.TXSTATE.EDU

This letter is an electronic communication from Texas State University.

I am including further links to papers and presentations given on a best practice model currently implemented at Texas State University and further research articles and presentations which describe the rationale and components of this research ecosystem for open science further. This open-source research ecosystem approach is suitable for any research university or research institution interested in enabling their researchers and managing their open science knowledge outputs.

Please consider these infrastructure elements for further discussion and review for the toolkit. Best practice example references and links for Fostering Open Science practices nationally are included below.

Dr. Raymond Uzwyshyn, Ph.D. MBA MLIS
Director of Digital Services and Library Collections
Texas State University, (512) 245-5687
ruzwyshyn@txstate.edu, <http://rayuzwyshyn.net>

Further References and links

Uzwyshyn, Raymond. Digital Research Ecosystems for Open Science - Lightning Talk. AI for Data Discovery, Reuse & Open Science Symposium. Carnegie Mellon University. October 20, 2020.
https://www.researchgate.net/publication/344712290_Digital_Scholarship_Ecosystems_for_Open_Science_Research_-_Lightning_Talk

Uzwyshyn, R. Developing an Open-Source Digital Scholarship Ecosystem. ICEIT 2020 Conference Proceedings, St Anne's College, Oxford University. Oxford, United Kingdom, 2020. (Peer reviewed, Indexed Scopus/Compendex). Color Preprint:
https://www.researchgate.net/publication/336923249_Developing_an_Open_Source_Digital_Scholarship_Ecosystem
ACM Final: <https://dl.acm.org/doi/abs/10.1145/3383923.3383926>

Uzwyshyn, R. Association of Southeastern Research Libraries Member's Webinar, April 29, 2020.
<http://www.aserl.org/wp-content/uploads/2011/08/DigitalScholarshipResearchEcosystems.pdf>

Bryant, Rebecca, Annette Dortmund, and Brian Lavoie. Social Interoperability in Research Support: Cross-Campus Partnerships and the University Research Enterprise. Dublin, OH: OCLC Research. October 2020.
<https://doi.org/10.25333/wyrd-n586>