

JANUARY 2017

CARL SCHOLARLY COMMUNICATIONS ROADMAP

Despite the context of a rapidly changing information landscape that is increasingly reliant on open and barrier-free sharing of scholarship, the formal scholarly communication system has not yet undergone significant advances, due to a number of complex and systemic issues. In 2015-16, CARL issued a white paper, [Canadian Universities and Sustainable Publishing \(CUSP\)](#), with the aim of initiating conversations with key stakeholders about the challenges and opportunities in the current scholarly publishing landscape. The interest expressed by senior university administrators has been encouraging and suggests that a roadmap with clear markers for stimulating positive change in scholarly communications would be very helpful.

This Roadmap¹ is guided by the vision of an open, sustainable, effective and innovative scholarly communication system that is governed and managed by the scholarly community, and that reflects a substantial role for Canadian academic libraries. The Roadmap positions objectives and activities in the context of a cohesive rationale and strategy for change in scholarly communication. In such a complex environment, we maintain that the most effective approach for advancing our vision is to address the deep, systemic challenges in a methodical manner, from multiple angles and through incremental steps.

One of the underlying premises of the Roadmap is that by acting nationally and coordinating internationally, Canada and CARL can be a force for change through:

- Collaborating with other stakeholders in Canada;
- Identifying, supporting and promoting ideas with other regions;
- Working to change social norms and local practices;
- Launching pilot projects that will be designed to expand beyond our borders.

In many cases, these activities will intersect with other local, regional and international efforts and CARL is committed to working with other organizations and stakeholders to achieve our objectives.

¹ This Roadmap was developed in late 2016 by the CARL Scholarly Communication Roadmap Working Group, whose Terms of Reference are available here: http://www.carl-abrc.ca/wp-content/uploads/2017/01/ScholCommRoadmap_TOR_EN.pdf

1. Increase awareness and engage stakeholders about the benefits of open access and the need for change

For over a decade now, CARL and its members have been promoting open access to research publications, in order to greatly improve the availability and impact of Canadian research. However, many in the research community still do not have an extensive understanding of open access, how it is implemented, and the benefits that can arise from the broad direction of open science². The purpose of this activity is to raise awareness of open access and open science with a variety of stakeholder communities in the Canadian research community.

- 1.1. Engage with institutional leaders in Canada (Provosts, VPs, Deans) about the benefits of open access and develop practical recommendations for how institutions can adopt open access practices;
- 1.2. Provide information resources to support local campus activities that raise awareness of the issues of open access, copyright and authors' rights with researchers;
- 1.3. Support the adoption of policies and services for open science and open access at federal departments and the research funding agencies;
- 1.4. Work with research administrators to ensure greater intersection between administrative systems and library systems, as well as alignment of vision.

2. Promote and accelerate the adoption of open science policies

Policies are important drivers for changing practices around sharing of research publications, data and other research outputs. In 2015, the Tri-agencies adopted an open access policy, and in 2016 published a statement of principles on digital data management. The implementation of similar policies at the institutional level will further consolidate open access and open science as a fundamental tenet in the Canadian academic research community, and help to accelerate the transition to open access in Canada. Additionally, the process of building support for related policies on campus will raise awareness of the benefits of open access and can help to dispel misunderstandings about the requirements and practices in various communities.

² In this context "open science" is used in the broadest sense and encompasses all domains of research including the social science and humanities. Open science is commonly used in Europe and has been defined as "the practice of research in such a way that others can collaborate and contribute, where research data, lab notes and other research processes are freely available, under terms that enable reuse, re-distribution and reproduction of the research and its underlying data and methods." Available at: <https://www.fosteropenscience.eu/foster-taxonomy/open-science-definition>

- 2.1. With university administrators, develop a best practice institutional open access policy and principles and support their implementation at Canadian universities;
- 2.2. Promote the adoption of Research Data Canada's [principles for research data management](#).

3. Lower the economic barriers to the creation and dissemination of academic publications

The costs of journal subscriptions have continued to rise over the last two decades, and the bundling of content limits purchasing flexibility, placing tremendous strain on institutional budgets. As the sector transitions towards open access models, many publishers are adopting article processing charges (APCs) but this does not necessarily lead to a sustainable system because they can also be extremely expensive, with an average cost of \$3000 CAD per article³, and are often paid in addition to institutional subscriptions. New models and strategies are needed for reducing the costs and to create a more sustainable future for scholarly communication and scholarly publishing.

- 3.1. With university administrators, develop a set of principles for sustainable scholarly publishing;
- 3.2. Advance new licensing strategies that enable selectivity and lower prices, and the adoption of clauses that support greater access and transparency;
- 3.3. Publish and share subscription fees and licensing details;
- 3.4. Strengthen and add value to the network of Canadian open access repositories by collaborating more closely and adopting a broader range of services such as assessment and usage measures;
- 3.5. Work with Canadian journals to develop, assess and adopt sustainable open access funding models.

³ As reported in a 2016 JISC analysis, "Article Processing Charges (APCs) and Subscriptions" available at: <https://www.jisc.ac.uk/sites/default/files/apc-and-subscriptions-report.pdf>

4. Promote the responsible application of impact and productivity measures for research

Despite the availability of networked tools and technologies, research communications are still greatly stifled by a system that simplistically evaluates researchers using flawed measures such as citations and journal impact factors. This is, in large part, because of the need to demonstrate productivity and impact, but also because there are few other measurable and comparable indicators readily available. In order to address this, a variety of new impact measures are being considered and piloted, such as “alt-metrics”. However, as argued in a 2015 article published in *Nature*, metrics have proliferated and “there is a risk of damaging the system with the very tools designed to improve it, as evaluation is increasingly implemented by organizations without knowledge of, or advice on, good practice and interpretation”⁴. While there is an obvious need to reduce our reliance on the journal impact factor and other traditional measures, we must be careful to ensure that alternative indicators more accurately reflect quality and impact, while being mindful of institutional pressures to utilize accountability metrics.

- 4.1. With university administrators and other stakeholders, undertake an assessment of the various metrics frameworks that are entering into the ecosystem. Publish and share assessment widely;
- 4.2. Raise awareness of the inherent limitations of the impact measures such as journal impact factor, on international rankings of institutions and research grant evaluation processes, including the pros and cons of various approaches;
- 4.3. With university administrators and other stakeholders, propose a set of best practices for research assessment measures and methods that more accurately reflect research quality, impact and value.

5. Expand the types of research outputs that contribute to the formal scholarly communication system

Great importance has been placed on the journal article as the primary means for disseminating the results of research, as well as for research assessment. Yet researchers produce a wide range of valuable outputs that contribute to new discoveries and research impact. In this context, research outputs are rapidly evolving, and increasingly reflect new or blended forms of scholarship that support research and education. In order to facilitate the sharing of a broader range of research outputs

⁴ “Bibliometrics: The Leiden Manifesto for research metrics”, *Nature*, April 22, 2015. Available at: <http://www.nature.com/news/bibliometrics-the-leiden-manifesto-for-research-metrics-1.17351>

and formal recognition for researchers for their contributions, we need to develop a more holistic and comprehensive ecosystem for scholarly communication, such as the [Open Science Cloud](#) in Europe.

- 5.1. Maintain and expand the Portage network for research data management;
- 5.2. Support the adoption and management of interoperable, distributed repositories for data and other types of research outputs;
- 5.3. Implement methods that track a wider range of research outputs, through services such as ORCID, DataCite, and so on.

This Roadmap, which is accompanied by a more detailed internal action plan, identifies the major areas of activity for CARL and its members in order to create positive change to the scholarly communication system. As the system transforms and the scholarly record evolves, the Roadmap will be updated to reflect any new characteristics and circumstances.

[The Canadian Association of Research Libraries \(CARL\)](#) includes Canada's 29 largest university research libraries and two federal institutions. Enhancing research and higher education is at the heart of our mission. CARL promotes effective and sustainable scholarly communication, and public policy that enables broad access to scholarly information.