ResearchGate vs. the Institutional Repository: Competition or Complement?

Julia Lovett & Andrée Rathemacher

NERCOMP Annual Conference
March 27, 2018
Providence, RI

Introduce ourselves.

We’ll present our study, with questions at the end for interactive discussion.

How many people in the audience are: librarians, teaching faculty, IT people?

Who has heard of ResearchGate?

Who knows what an Institutional Repository is?
For those not familiar, an IR is an online platform for sharing the digital scholarly and creative output of a university (faculty work, student work, etc.). The content is usually open access.
In recent years, academic social networking sites such as ResearchGate and Academia.edu have been gaining popularity.

Also referred to as scholarly collaboration networks, these websites are like Facebook or LinkedIn for academic researchers.

Users create profiles and are encouraged to list their publications and other scholarly activities, to upload copies of articles they've authored, and to collaborate with other scholars with common interests.

The growth of these sites indicates that scholars want to share their work, and that is good news for Open Access.

But for universities with OA policies, it is possible that academic social networks are competing with institutional repositories for faculty content. At the very least, they are at odds with the mission of OA policies to provide researchers with a legal, non-commercial, and long-term method of sharing their work.

Today we’ll present the results of a study at the University of Rhode Island that sought to reveal researcher practices, attitudes, and motivations around uploading their work to ResearchGate — in many cases violating their publishing contracts — and complying with an institutional Open Access Policy.

Note: We decided to focus on ResearchGate instead of Academia.edu because it
seemed to us that more URI faculty were using RG, and it was more manageable to study just one ASN.

Also, a review of the literature confirmed that RG is more heavily used by researchers and is a significant source of openly available scholarly content, second only to nih.gov.

========================

ResearchGate logo source: https://www.researchgate.net/press
Academia.edu logo image source: https://commons.wikimedia.org
Open Access logo image source: https://commons.wikimedia.org
University of Rhode Island

Rhode Island’s public research university

Land-grant and sea-grant institution

Research strengths (per Web of Science):

- Engineering
- Environmental sciences
- Chemistry
- Oceanography
- Marine freshwater biology
- Pharmacology
- Psychology
In March 2013, University of Rhode Island Faculty passed a Harvard-style, permissions-based OA Policy.

By granting the university a license in all faculty articles, the Policy provides a legal way for authors to openly share their articles through DigitalCommons@URI, our institutional repository.

This type of Open Access is sometimes referred to as Green OA: The author publishes in a traditional subscription-based journal and then deposits the author manuscript version in a repository.

In contrast, when authors publish articles in fully-open access journals, this is referred to as Gold Open Access.

Some institutions with OA policies have automated processes for filling their IRs with faculty articles, for example:
- Harvesting article full-texts from open sources and/or
- Agreements with select publishers to deposit articles written by the institution’s authors into the IR

Due to lack of staffing and technical support at URI:
- Our OA policy workflow is manual
- Relies upon active faculty participation
  - Search alerts across a number of databases to identify URI-authored
- articles
- Email authors to ask for accepted manuscripts
- Deposit articles in DigitalCommons@URI on authors' behalf

====
As many have acknowledged, a significant challenge for institutions with OA policies is convincing faculty to provide their articles for deposit.

Compliance rate:

- 13-14% of URI faculty (103 of 759 full-time faculty at last count)
- Numbers are hard to come by, but this is low, e.g. compared to estimates of 25% of faculty at University of California system and 61% of faculty at Harvard.

Yet, we saw that ResearchGate and Academia.edu were growing; Many URI faculty authors posting their full-texts (often illegally).

We asked ourselves, “What, are URI faculty sitting around in their bunny slippers all weekend, uploading their articles to ResearchGate, when they won’t even respond to our emails to comply with the OA Policy?”

This question might be less relevant for an institution that harvests a large portion of faculty articles and only asks faculty to provide manuscripts as a last resort.

But for us, because we require active faculty participation for the success of our policy, comparing faculty engagement with ResearchGate versus the OA Policy seemed important.

We wanted to find out if URI faculty really were choosing ResearchGate over the IR, and, if so, why and to what extent?
Our study

Population study of full-time URI faculty (September 2016)

- Which faculty members have uploaded full-text articles to ResearchGate?
- Which faculty members have contributed articles to the URI OA Policy?

Web-based survey of full-time URI faculty (October 2016)

- Familiarity with both the OA Policy and ResearchGate
- Level of participation in both the OA Policy and ResearchGate
- Motivations, benefits, concerns
- If not participated in OA Policy or ResearchGate, why?
- Understanding of legality of sharing articles
Goal of population study: To define the scope of the “problem.”

Obtained a list of all full-time faculty from the Office of Human Resources. Looked up each person’s department and rank, assigned them to a broad discipline: A&H, SOC, or STEM

To save time, removed faculty in lecturer rank (since they are not expected to publish), faculty who had retired or left the university, any administrators or non-faculty who appeared on the list in error, and visiting professors.

Final population: 558 full-time faculty members [from 728, less 170; 77% of original list].

For each faculty member:
- Number of articles submitted in compliance with OA Policy [from our internal OA Policy tracking statistics]
- Whether they had a profile on ResearchGate [from publicly-available RG profile]
- Total number of full-text articles uploaded to RG by author (When logged in, RG: “Contributions” => “Full-Texts” author as source)
- Total number of full-text articles uploaded to RG by author published since March 2013 (when OA Policy was passed).

Note: Count excluded any works on ResearchGate that would not be covered by the

<table>
<thead>
<tr>
<th>Broad Discipline</th>
<th>Rank</th>
<th>OAP Articles (≥ 2013)</th>
<th>RG full-text articles uploaded by author (total)</th>
<th>RG full-text articles uploaded by author (≥ 2013)</th>
<th>RG profile?</th>
</tr>
</thead>
<tbody>
<tr>
<td>A&amp;H</td>
<td>Full</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>No</td>
</tr>
<tr>
<td>SOC</td>
<td>Associate</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>No</td>
</tr>
<tr>
<td>SOC</td>
<td>Full</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>No</td>
</tr>
<tr>
<td>SOC</td>
<td>Associate</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Yes</td>
</tr>
<tr>
<td>STEM</td>
<td>Associate</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>Yes</td>
</tr>
<tr>
<td>STEM</td>
<td>Assistant</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Yes</td>
</tr>
<tr>
<td>STEM</td>
<td>Full</td>
<td>0</td>
<td>15</td>
<td>1</td>
<td>Yes</td>
</tr>
<tr>
<td>STEM</td>
<td>Full</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Yes</td>
</tr>
<tr>
<td>STEM</td>
<td>Assistant</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Yes (author profile?)</td>
</tr>
<tr>
<td>STEM</td>
<td>Full</td>
<td>0</td>
<td>33</td>
<td>3</td>
<td>Yes</td>
</tr>
<tr>
<td>A&amp;H</td>
<td>Associate</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>No</td>
</tr>
<tr>
<td>STEM</td>
<td>Full</td>
<td>0</td>
<td>36</td>
<td>6</td>
<td>Yes</td>
</tr>
<tr>
<td>STEM</td>
<td>Assistant</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>No</td>
</tr>
<tr>
<td>STEM</td>
<td>Assistant</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>No</td>
</tr>
<tr>
<td>SOC</td>
<td>Assistant</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>Yes (author profile?)</td>
</tr>
<tr>
<td>SOC</td>
<td>Assistant</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Yes</td>
</tr>
</tbody>
</table>
OA Policy, e.g. posters, book chapters, working papers, research & technical reports
Population study results

- 47% of URI full-time faculty had profiles on ResearchGate.
- 34% of URI full-time faculty contributed full-text articles to ResearchGate.

BUT FOR COMPARISON…

- **ResearchGate**: # of faculty who provided full-texts of articles published *after March 2013*

  vs.

- **Open Access Policy**: # of faculty who provided articles in compliance with policy (passed in March 2013)
20.3% of URI faculty contributed articles to RG; 15.4% contributed articles to OAP.

Here, I want to note some **SHORTCOMINGS** in our data:

- **OA Policy participation was underestimated**
  - Gold OA articles not counted (because uploaded under publisher CC license and not our more restrictive OA Policy TOU) -- our stats are based on license under which article was uploaded.
  - Each article only counted once, attributed to author who submitted it; not counted again as compliance by any URI co-authors.

- **ResearchGate participation was overestimated**
  - ResearchGate has been reported to harvest full-texts from the open Web, so possible that full-texts in RG were not all there as the result of direct author intention
  - If multiple URI co-authors uploaded the same article to RG, it would be counted twice (unlike with OA Policy)

So, given that the data is skewed in favor of ResearchGate, and that the difference here is only 4.9 percent, maybe the situation is not as “bad” as we thought?
Another way of looking at the data shows that only a minority of faculty are sharing their work.

Here we have a 30/70 breakdown.

Total faculty participating in RG, OAP, or doing both is 29.4%
- 9% OA Policy only
- 14% RG only
- 6% both

Total faculty not participating in RG or OAP is 70.6% [purple]
A breakdown by DISCIPLINE seems to confirm reports in the literature that RG is preferred by those in the sciences.

The OAP more popular than RG in the social sciences and arts & humanities,

Though sharing on either platform is A&H is limited to a small minority of faculty.

Note: the “Both” bar in each chart segment is a component of, i.e. included in, the OAP and RG totals. In other words, the “Open Access Policy” bar is NOT faculty who ONLY participated in the OAP, and the “ResearchGate” bar is NOT faculty who ONLY participated in RG.
A breakdown by **RANK** reveals higher levels of participation in both RG and OAP by full professors.

This is interesting because some studies have shown that younger faculty are generally more likely to contribute to institutional repositories.

**Discussion / Conclusion:**
- Of faculty who share their full-texts, RG beat OAP by only 5%.
- Real difference is probably **less**, due to our methodology, as we mentioned.
- So, RG not the threat we thought it was.
- Biggest issue is large number of faculty who don’t share their work (at least not through OAP or RG).

======
Note: the “Both” bar in each chart segment is a component of, i.e. included in, the OAP and RG totals. In other words, the “Open Access Policy” bar is NOT faculty who ONLY participated in the OAP, and the “ResearchGate” bar is NOT faculty who ONLY participated in RG.
Survey results: Demographics

- 23 multiple-choice questions through SurveyMonkey
- Sent successfully to 710 full-time URI faculty (all ranks)
- 135 responses = 19% response rate
- Responses by College: relative to distribution of faculty,
  - Arts & Sciences under-represented while College of the Environment & Life Sciences over-represented (11-12%)
- Responses by Rank
  - Full professors over-represented by ~15%
  - Assistant Professors and Lecturers under-represented
- 51% of respondents complied with OA Policy (vs. 13-14% actual rate across URI)

Survey

- (read from slide)

Results -- worth noting:
- 43% of respondents uploaded full-texts to RG (compared with population study=34% all publication dates)
- Suggests those who completed survey much more likely to be participants
- Perhaps comments insightful as result
Authors think ResearchGate offers more benefits:

<table>
<thead>
<tr>
<th>Benefits</th>
<th>DigitalCommons@URI</th>
<th>ResearchGate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connected with other researchers</td>
<td>8.8%</td>
<td>63.6%</td>
</tr>
<tr>
<td>Shared my work more broadly</td>
<td>60.3%</td>
<td>80.0%</td>
</tr>
<tr>
<td>Increased the visibility and impact of my work</td>
<td>52.9%</td>
<td>78.2%</td>
</tr>
<tr>
<td>Tracked statistics on downloads of my work</td>
<td>36.8%</td>
<td>56.4%</td>
</tr>
<tr>
<td>Archived my work for the long term</td>
<td>17.7%</td>
<td>n/a</td>
</tr>
<tr>
<td>Other (please specify)</td>
<td>22.1%</td>
<td>9.1%</td>
</tr>
</tbody>
</table>

Survey: Benefits of having articles available in DigitalCommons@URI (n=68) and ResearchGate (n=55)

Now I will go over some of the highlights of the survey results.

In the survey, we asked several questions about the perceived benefits of participating in the OA Policy and ResearchGate. This table shows a list of possible benefits and the percentage of respondents who selected them.

Overall, the majority rated “sharing my work more broadly” and “increasing the visibility and impact of my work” as benefits for both OAP and RG. But, RG scored higher on both and across the board.

In several comments, people expressed a belief that RG has a wider audience.
  - Because of social aspects of RG? Constant RG emails / notifications?
  - Both Digital Commons and RG are well-indexed by Google
  - Friction higher when downloading from RG

Along with asking about benefits, we also asked faculty what motivated them to participate in either OA Policy or RG. Receiving requests for articles (RG or OAP) a motivating factor
  - Supports strategy of contacting faculty to ask for articles

• A number of respondents: No benefit to having articles in IR, or not sure of benefits
  - Supports use stories (like Harvard and MIT have done)
Authors dislike sharing manuscript versions:

- Preference for final published version of record
- Not wanting multiple versions of same work available
- Not wanting version with potential errors and typos to be publicly available
- Manuscript often messy => potentially misunderstandings by readers
- Manuscript does not share pagination of final version => difficult to cite
- Not having ready access to accepted manuscript version, especially when not corresponding author
- Time and effort to reassemble manuscript, e.g. reintegrating figures and tables into text

Huge theme in responses = preference for sharing final published version (ResearchGate “accepts final PDF versions”) and dislike for sharing manuscripts through IR.

This was the most significant barrier to participating in the OA Policy.

[Review reasons above]
**Authors are confused about copyright:**

<table>
<thead>
<tr>
<th></th>
<th>Open Access Policy</th>
<th>ResearchGate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legal under copyright law</td>
<td>50.4%</td>
<td>21.4%</td>
</tr>
<tr>
<td>Violates the copyright of the publisher</td>
<td>8.4%</td>
<td>17.5%</td>
</tr>
<tr>
<td>Not sure</td>
<td>41.2%</td>
<td>61.1%</td>
</tr>
</tbody>
</table>

Survey: Opinion of legality of complying with the OA Policy (n=131) and posting article full-texts on ResearchGate (n=126)

- **Copyright confusion:** Survey revealed that authors don’t always understand copyright. This table shows responses for how people perceived the legality of the OAP and RG.
- Comments reveal belief that legality of posting articles depends on publisher policy and article version:
  - Ignorance of how permissions-based policies work.
    - In fact, permissions-based OA policies make it legal to post author manuscripts in the IR regardless of publisher policies.
  - Yet 81.8% of respondents reported posting publisher PDF on RG
    - Many subscription-access journals prohibit depositing any version of an article to commercial sites like ResearchGate.
Sharers gonna share...

Statistical analysis revealed that having shared research on one platform meant an author was more likely to have shared on the other.

- Statistical analysis: Our co-authors created two multiple linear regression models of the survey results. Most significant finding:
  - Statistical analysis revealed that having shared research on one platform meant an author was more likely to have shared on the other.
  - Faculty who had provided articles to RG were more likely by 17% to have participated in the OAP than faculty who had not provided articles to RG (5% level of significance)
  - Faculty who had participated in the OAP were more likely by 15.5% to have contributed full-texts to RG (5% level of significance)
  - Conclusion: URI faculty are not using RG to the exclusion of the IR.
Conclusions:

- URI faculty who posted articles to RG *more* likely to have complied with OA Policy, not *less*.
- Only a minority of faculty are sharing their work through either service.
  
  => Academic social networks not a threat to OA.
  
  => We need to recruit more faculty to share their work in general.
Conclusions:

- Strong preference for sharing publisher PDF; aversion to sharing author manuscript versions.

=> Education and outreach to authors around options for legally sharing articles is needed.

=> Green OA through IRs will remain an activity of a minority of authors?

=> If so, supports efforts to hasten the transition to Gold OA publishing system.
Discussion questions:

=> Librarians: What are your experiences with faculty authors and academic social networks like ResearchGate and Academia.edu?

=> Why don’t more faculty share their work in general?
  - Are there significant ways they are sharing besides IRs and ASNs?
  - Will sharing by authors always be a minority activity?
  - How can sharing be effectively incentivized?

=> Have others also experienced authors’ dislike for sharing their manuscript versions?
  - If this is common, should we focus more on the transition to Gold OA, so that OA doesn’t depend so much on authors?
Questions?

Julia Lovett
jalovett@uri.edu

Andree Rathemacher
andree@uri.edu