What is Scholarly Communication and Publishing in the 21st Century?

OASPA Open Scholarship Webinar Series
What is Scholarly Communication and Publishing in the 21st Century?

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What is Scholarly Communication and Publishing in the 21st Century?

- **Heather Joseph (@hjoseph)** - Executive Director of the Scholarly Publishing and Academic Resources Coalition (SPARC)

- **Kathleen Fitzpatrick (@kfitz)** – Director of Digital Humanities and Professor of English at Michigan State University

- **John Wilbanks (@wilbanks)** – Chief Commons Officer at Sage Bionetworks
What is Scholarly Communication and Publishing in the 21st Century?

Heather Joseph
Executive Director, SPARC
OASPA Webcast
April 2, 2020
Our goal is a global research and education ecosystem that is truly open and equitable for all.
This means building a scholarly communication system that ensures **equity in contributing** to knowledge, as well as equity in **accessing** it.
We can do this by focusing on empowering ongoing scholarly communication – not just scholarly publishing.
Enter: Massive Unexpected Global Change
• Scientists/scholars are demonstrating better ways to communicate.

• Policymakers/research funders are under enormous public pressure to support faster/open communication for more than COVID.

• Academic/research institutions are being forced to fundamentally change operations.

• The funding sources that support our current system of scholarly communications are being fundamentally altered.
Scientists/scholars are demonstrating better ways to communicate.
Webinar: Rapid communication of COVID-19 research

March 31, 12pm ET

ASAPbio is a scientist-driven non-profit promoting transparency and innovation in life science communication.
Caution: Preprints are preliminary reports of work that have not been certified by peer review. They should not be relied on to guide clinical practice or health-related behavior and should not be reported in news media as established information.

**COVID-19 SARS-CoV-2 preprints from medRxiv and bioRxiv**

**Subject Areas**

All Articles
SEQUENCING THE GENOME OF THE VIRUS BEHIND COVID-19

Biologists from the Applied Physics Lab work to track the mutation of SARS-CoV-2, the virus that causes COVID-19.
CORD-19: A New Machine Readable COVID-19 Literature Dataset

Are you interested in mining literature about COVID-19 and the novel SARS-Cov-2 virus? You may want to check out the COVID-19 Open Research Dataset (CORD-19). CORD-19 is a collection of more than 13,000 full text articles that focus on COVID-19 and coronaviruses and that were assembled from PMC, the WHO, bioRxiv, and medRxiv. To produce this dataset, the National Library of Medicine partnered with colleagues from the Allen Institute for AI, the Chan Zuckerberg Initiative (CZI), Georgetown University’s Center for Security and Emerging Technology (CSET), Kaggle, Microsoft, and the White House Office of Science and Technology Policy (OSTP).
Policy makers and research funders are under enormous public pressure to support faster open communication for more than just COVID.
Global Officials Call for Free Access to Covid-19 Research

Government science advisers in a dozen countries are asking scientific journals to make data on the disease more widely available.
U.S. researchers must share results to quickly combat coronavirus
By simply requiring that scientists funded by U.S. tax dollars openly share the results of their work, the Trump administration can end th...  washingtontimes.com
Academic/research institutions that support science and scholarship are being forced to fundamentally change.
Everybody Ready for the Big Migration to Online College? Actually, No

One consequence of coronavirus: It will become more apparent that good online education is easier said than done.

By Kevin Carey

March 13, 2020

Nobody planned for an abrupt mass migration of traditional college courses to the internet.

But because of coronavirus, that’s where we are.

Hundreds of thousands of students have been told to clear out their belongings and head home, many through the end of the semester. In nearly every case, colleges have said that instruction will continue online.

Making it work will require much more than giving every professor a Zoom account and letting instruction take its course. That’s partly because not all students will be able to access or benefit from good broadband service or reliable computer equipment.
The sources of funding that have supported our current system of scholarly communications are being fundamentally altered.
Oy. So now what?
Our community is a global ecosystem.
Decisions that we make now will shape the future; and should be firmly rooted in shared values.
The opportunity is to (re)build a scholarly communications system that truly serves humanity.
Thank You - looking forward to our discussion.

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COLLABORATION AND CONNECTION

SCHOLARLY COMMUNICATION IN THE 21ST CENTURY

Kathleen Fitzpatrick // @kfitz // kfitz@msu.edu
Generous Thinking

A Radical Approach to Saving the University

Kathleen Fitzpatrick

Author of Planned Obsolescence: Publishing, Technology, and the Future of the Academy
Welcome to Humanities Commons, the network for people working in the humanities. Discover the latest open-access scholarship and teaching materials, make interdisciplinary connections, build a WordPress Web site, and increase the impact of your work by sharing it in the repository. Brought to you by the MLA.

Using the Commons for Canceled or Virtual Events

For those who have had to cancel events or shift to virtual meetings in response to COVID-19, this post provides information about ways Humanities Commons could be a resource.
PRIVATE
KEEP OUT.
Kathleen Fitzpatrick
Director of Digital Humanities and Professor of English
Michigan State University

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Academic Interests
- 20th-century American literature
- Digital humanities
- Media studies
- Reading
- Scholarly communication
- Technology

About
Kathleen Fitzpatrick is Director of Digital Humanities and Professor of English at Michigan State University. Prior to assuming this role in 2017, she served as Associate Executive Director and Director of Scholarly Communication of the Modern Language Association. She is author of Generous Thinking: A Radical Approach to Saving the University (Johns Hopkins University Press, 2019), as well as Planned Obsolescence: Publishing, Technology, and the Future of the Academy (NYU Press, 2011) and The Anxiety of Obsolescence: The American Novel in the Age of Television (Vanderbilt University Press, 2006). She is project director of Humanities Commons, an open-access, open-source network serving more than 17,000 scholars and practitioners in the humanities.

Education
- PhD, English, New York University, 1998.
- BA, English, Louisiana State University, 1988.

Work Shared in CORE

Articles
- Giving It Away: Sharing and the Future of Scholarly Communication

Book chapters
- Digital Wallace: Networked Pedagogies and Distributed Reading
- Obsolescence and Innovation in the Age of the Digital
GOVERNANCE
There is no greater calling than to serve your fellow man and have done it well.
Learning Space Demo

From the Modern Language Association

COURSE DESCRIPTION
This demo site will introduce how to use the Learning Space from the MLA theme. The theme creates spaces for instructors to share their syllabus, lessons, assignments, and course documents and create a shared calendar for the course. You’ll find more information about these features in assignments, lessons, and course documents.

To get your own site using this theme:

1. Log in to Humanities Commons. If you don’t already have an account, you can register for one.
2. Create a site, and check off Is this a course site?
3. The site will be created with the Learning Space theme activated.

Learn more in this introductory lesson.

Course Materials

LESONS

Introduction to Learning Space from the MLA

ASSIGNMENTS

Add a Widget to Display Assignments on the Front Page
Future scholars looking back...

How did scholarly communications evolve in the 21st century?

“Two ways. Gradually, then suddenly.”
massive exogenous change

Accelerates processes already in play

Demonstrates the key problems were political and economic
COVID-19 SARS-CoV-2 preprints from medRxiv and bioRxiv

923 Articles (709 medRxiv, 214 bioRxiv)

Most recent first

Clinical features and outcomes of 197 adult discharged patients with COVID-19 in Yichang, Hubei
  Zhou, F., Yu, X., Tong, X., Zhang, R.

  Cruz-Pacheco, G., Bustamante-Castaneda, F. J., Caputo, J. G., Jimenez-Corona, M. E., Ponce de-Leon, S.
  10.1101/2020.03.24.20042168 — Posted: 2020-03-30

A modified SEIR model to predict the COVID-19 outbreak in Spain: simulating control scenarios and multi-scale epidemics
  Lopez, L. R., Roda, X.
  10.1101/2020.03.27.20045005 — Posted: 2020-03-30

Prediction of the time evolution of the Covid-19 Pandemic in Italy by a Gauss Error Function and Monte Carlo simulations
  Ciufolini, I., Paolozzi, A.
  10.1101/2020.03.27.20045104 — Posted: 2020-03-30

Short-term forecasts and long-term mitigation evaluations for the
Nevertheless, despite the advantages of speedy information delivery, the lack of peer review can also translate into issues of credibility and misinformation, both intentional and unintentional. This particular drawback has been highlighted during the ongoing outbreak, especially after the high-profile withdrawal of a virology study from the preprint server bioRxiv, which erroneously claimed that COVID-19 contained HIV “insertions”.21 The very fact that this study was withdrawn showcases the power of open peer-review during emergencies; the withdrawal itself appears to have been prompted by outcry from dozens of scientists from around the globe who had access to the study because it was placed on a public server.22 Much of this outcry was documented on Twitter (a microblogging platform) and on longer-form popular science blogs, signalling that such fora would serve as rich additional data sources for future work on the impact of preprints on public discourse.22 However, instances such as this one described showcase the need for caution when acting upon the science put forth by any one preprint.
• It’s the arxiv’s world, we just live in it now
  • Preprints
  • Post-preprint peer review
  • Rapid versions and “fog of war”
  • No cadence tied to the calendar to publish
  • Popular enough to grift and abuse beyond actual scientific mistakes
  • Um, misinterpretation?
COVID-19 Open Research Dataset (CORD-19)

Access this dataset to help with the fight against COVID-19

A Free, Open Resource for the Global Research Community

In response to the COVID-19 pandemic, the Allen Institute for AI has partnered with leading research groups to prepare and distribute the COVID-19 Open Research Dataset (CORD-19), a free resource of over 45,000 scholarly articles, including over 33,000 with full text, about COVID-19 and the coronavirus family of viruses for use by the global research community.

This dataset is intended to mobilize researchers to apply recent advances in natural language processing to generate new insights in support of the fight against this infectious disease. The corpus will be updated weekly as new research is published in peer-reviewed publications and archival services like bioRxiv, medRxiv, and others.

CORD-19 Explorer is a quick and easy way to search the CORD-19 corpus, or you can download the complete data below.
Hey, TDM!

- Biorxiv./medrxiv corpus + 32,000 other full text papers
- Copyright problems magically solved?!?
- Looks like publishing scientific facts in prose might be a bad idea
- Challenge incentives because everyone else is too slow to create them in crisis
Genomic epidemiology of novel coronavirus

Showing 2077 of 2077 genomes sampled between Dec 2019 and Mar 2020.
• Do you even share in the cloud?
• Suddenly everyone wants to reuse data because the labs are closed
• Power (and funding) is flowing to what already works – exogenous event rewards those who did the grinding work before the event
• This is scholarly communication. Just not in the document metaphor.
Accessibility vs Degrees of Freedom

- Model to Data
- Sandbox
- Collaboration
- Closed
- Closed + Restricted
- Open
After the meteor

• Vast increase in "born digital" science shared (i.e. “published”) over open channels

• New forms of collective review that were slowly gaining already (overlays, “playlists”)

• A lot of non-junk but non-important science may just live as preprint

• What happens to societies who lose a full year of conference revenue, and a lot of submissions to preprints?
After the meteor

• New forms of collective review (communities, benchmarks) that are faster and don’t involve any publication in the traditional sense
Subtypes of primary colorectal tumors correlate with response to targeted treatment in colorectal cell lines

Andreas Schlicker¹, Garry Beran², Christine M Chresta³, Gail McWalter¹, Alison Pritchard¹, Susie Weston⁴, Sarah Runswick⁴, Sara Davenport⁴, Kerry Heathcote⁴, Denis Alvarez Castro⁵, George Orphanides¹, Tim French¹ and Ludewyk FA Wessels¹

A colorectal cancer classification system that associates cellular phenotype and responses to therapy


Gene Expression Classification of Colon Cancer into Molecular Subtypes: Characterization, Validation, and Prognostic Value

Laetitia Mataia, Aurélien de Reyntjels, Alex Duval, Janick Selvès, Marie Pierre Gaul, Laure Vescovo, Marie-Christine Elenne-Grimaud, Renaud Schappe, Dominique Guenot, Mire Ayadi, Sylvain Kirin, Maurice Chazal, Jean-François Filippou, Daniel Benchimol, Anne Berger, Arnaud Legarde, Ewan Pancraies, Françoise Plat, Dominique Elias, Yann Pan, Sylviane Olschewski, Gérard Milano, Pierre Laurent-Puig

Gene expression patterns unveil a new level of molecular heterogeneity in colorectal cancer

Ewa Budinska, Vlad Popovici, Sabine Tejpar, Giovanni D'Aria, Nicolas Laplace, Katarzyna Otylia Sikora, Antonio Fabio Di Narzo, Pu Yan, John Graeme Hodgson, Scott Weinrich, Fred Bosman, Arnaud Roth and Mauro De Lorenzi
crc subtyping consortium

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# CRC Subtyping Consortium

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<td>MSI immune</td>
<td>Canonical</td>
<td>Metabolic</td>
<td>Mesenchymal</td>
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<tr>
<td>14%</td>
<td>37%</td>
<td>13%</td>
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- **CMS1 (MSI immune)**: MSI, CIMP high, hypermutation
- **CMS2 (Canonical)**: SCNA high
- **CMS3 (Metabolic)**: Mixed MSI status, SCNA low, CIMP low
- **CMS4 (Mesenchymal)**: SCNA high

**BRAF mutations**
- Immune infiltration and activation
  - Worse survival after relapse
- WNT and MYC activation
  - Stromal infiltration, TGF-β activation, angiogenesis
- Metabolic deregulation
  - Worse relapse-free and overall survival

CIMP, CpG island methylator phenotype; MSI, microsatellite instability; SCNA, somatic copy number alterations.

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**Nature Medicine**

**DOI**: 10.1038/nm.3967
accessibility

degrees of freedom

closed + restricted

model to data

collaboration

sandbox

consensus model

open

closed
public / private partnership between NIH, 10 biopharmaceutical companies and several non-profit organizations
accelerating medicines partnership

coordinate sharing of early-phase target identification insights
accelerating medicines partnership
benchmark as peer review
We have to do better.

We must be better than the “just use zoom” advice so many institutions just adopted for teachers:

- training
- infrastructure
- cultural support, time, and space to adjust
thank you

@wilbanks
john.wilbanks@sagebase.org
Questions?
Thank you for joining us today

Contact us at Info@oaspa.org
or view our website at www.oaspa.org