

Supporting the Researcher Lifecycle: Beyond Traditional Publishing

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American Chemical Society

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STM Society Day

Philadelphia, PA

About ACS



- More than 150,000 members – world's largest scientific society
- 200+ US Local Sections & International Chapters
- 32 Technical Divisions
- ~15% of ACS members based outside U.S.



ACS/Peter Curtis

ACS headquarters, Washington, D.C.

Our Vision:

“Improving people’s lives through the transforming power of chemistry”

Our Mission:

“Advancing the broader chemistry enterprise and its practitioners for the benefit of Earth and its people”



CAS

Chemical Abstracts Service staff,
Columbus, Ohio

ACS Publications

ACS Journals

- **Broad:** Over 50 peer-reviewed journals publishing broadly in chemical sciences and related fields
- **Prolific:** 1M+ original research articles,
- **High Quality:** #1 in Impact Factor and/or citations in 14 scientific categories, including 6 in core chemistry
- **Researcher-Focused:** Editors are active, leading researchers

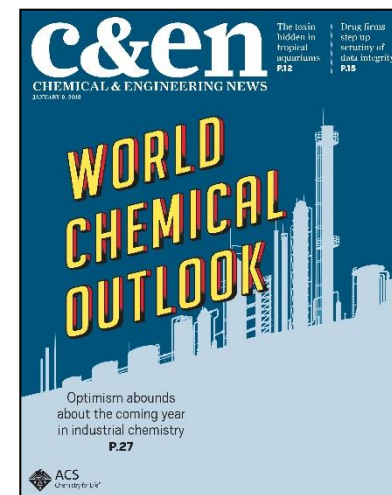


ACS Books

- ACS Symposium Series: Archive and current year
More than 1,500 titles, 27,000 chapters
- ACS Reagent Chemicals Online
- ACS Style Guide Online

Chemical & Engineering News

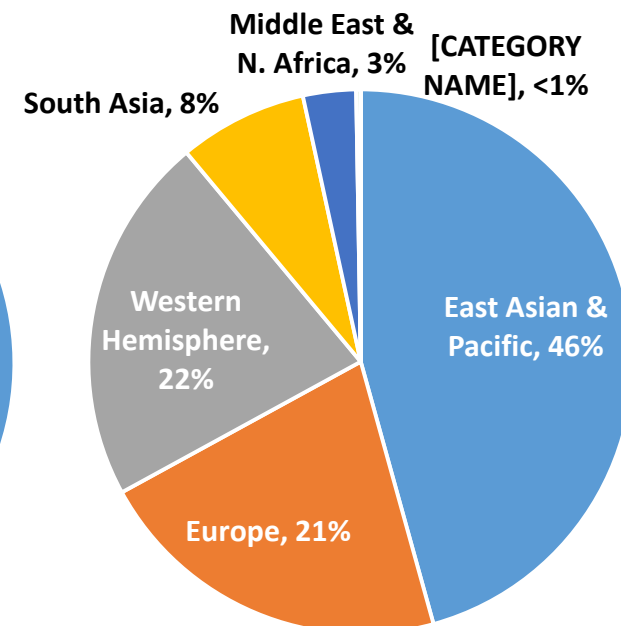
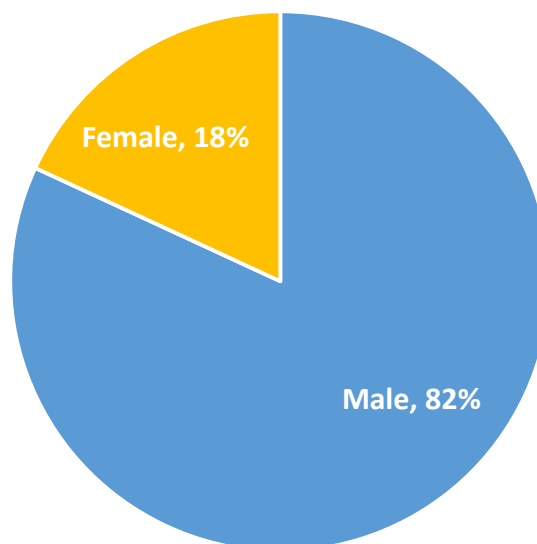
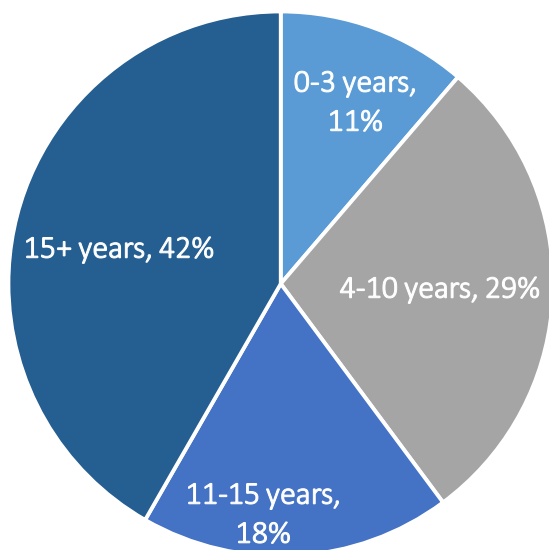
- Flagship magazine of ACS
- **Over 100,000 original news stories**



The Evolving Researcher

ACS Authors are:

- Global
- Interdisciplinary
- Diverse



How Do Publishers Support Researchers?

Traditional Publishing Workflow



More generally...



Applies to other points in the researcher cycle, e.g.,:

- *Research data*
- *Preprints*
- *Conference presentations*

Societies Enable Culture Changes

culture

noun • UK  /'kʌl.tʃə/ US  /'kʌl.tʃə/

★ **B1** [C or U] **the way of life, especially the general customs and beliefs, of a particular group of people at a particular time:**

5 Contributions Societies Bring to the Publishing Landscape

- ✓ Mission/Vision – common drivers
- ✓ Engaging, Educating, Informing - already active in the community
- ✓ Coordinating communication and development – infrastructure is already in place
- ✓ Societies are community-led, diverse, representative
- ✓ Finding sustainable paths

The Path to a Chemistry Preprint Server

- ACS Editors identified a need for a preprint server for the chemistry community – early 2016
- ACS engages with the community
 - ACS Editors and editorial advisory boards
 - **Other societies, notably RSC, GDCh**
 - ACS Technical Divisions and members
 - Other publishers, potential partners
 - Chemists of all stripes
 - Funding agencies
 - Other preprint servers and preprint initiatives



Prof. Laura Kiessling, MIT
Editor-in-Chief, ACS
Chemical Biology



Societies and publishers have established networks with key stakeholders, so engagement happens naturally

Preprints – Value to Researchers

- **Speed up science** – rapid evaluation of controversial results
- **Improve manuscripts** through broad engagement prior to publication
- **Share urgent information, data, and new findings** with communities months before publication
- Document research results, **provide scholarly credit** for grant reviewers, employers prior to publication
- **Establish priority** of a discovery (providing a timestamp)
- **Attract attention** of journal editors, journalists to important work
- Find others in similar areas for **collaborations** or discussions



Cornell University
Library

arXiv.org

1991

bioRxiv
beta

2013

and many others

What is the value of a chemistry-specific preprint server?

- ✓ Scientific communities often have **different needs**
- ✓ **Like attracts like**....communities of scientists are more likely to engage in discipline specific new initiatives
- ✓ Discipline specific approach best able to **establish community norms**, expectations, standards
- ✓ **Decreased time to establish priority.** ACS journals and chemistry journals generally have rapid times to publication, but the overall time to publication an author experiences from first submission to final acceptance and publication can still be lengthy.



<http://www.freestockphotos.biz/stockphoto/311>
Courtesy of [FSP Editorial License](#)

ChemRxiv Beta launched August 2017



The screenshot shows the ChemRxiv Beta website interface. At the top, there is a navigation bar with the ChemRxiv logo, a search bar, and 'Submit', 'Sign up', and 'Log in' buttons. Below this is a header section featuring the logos of ACS (Chemistry for Life), GDCh, and the Royal Society of Chemistry. The main content area has a large 'ChemRxiv™' logo in the center. Below the logo, it reads 'ChemRxiv Beta: The Preprint Server for Chemistry ChemRxiv'. There are navigation tabs for 'NEW', 'POPULAR', 'CATEGORIES', and 'SEARCH'. Below these tabs, statistics are shown: '208929 views', '30397 downloads', and 'more stats...'. The main content area displays four preprint cards, each with a title, author name, and date:

- Mobilising Ion Mobility Mass Spectrometry in Synthetic Biology** by Eleanor Sinclair, today
- Computational Chemoproteomics to Understand the Role of Selected Ps...** by Jonathan Fine, today
- Oxidase Catalysis via an Aerobically Generated Dess-Martin Periodinan...** by Asim Malik, today
- Identification of Key Proteins Involved in Axon Guidance Related Disorder...** by Ishfaq Ahmad, yesterday

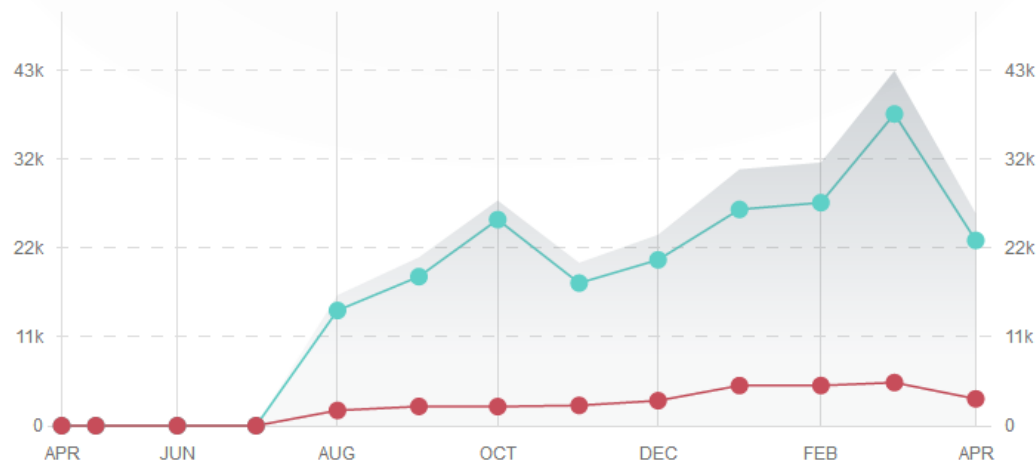
- Strategic and financial partnership with the Royal Society of Chemistry and the German Chemical Society announced in March 2018

ChemRxiv: Progress to Date

- **>270** preprints posted since launch
- Widespread visibility
 - >208,000 views
 - >30,000 downloads
- Posted preprints span the breadth of chemistry areas
- ChemRxiv preprints have been subsequently published in top journals, including *Science*, *ACS Central Science*, and many others

In the last year, ChemRxiv had...

... **208,171** views, **30,241** downloads in total

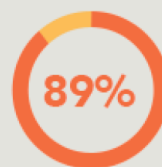


Training the Next Generation: ACS Reviewer Lab



- Market research signaled a recurring need to provide better training for reviewers
 - Huge gap in formal peer-review training for early and mid-career researchers
 - Lack of feedback upon submitting reviews
 - Need for better training in identifying plagiarism and ethical issues
 - Shrinking pipeline of peer reviewers, especially outside US
- A natural fit for ACS to provide leadership in peer-review
 - Peer-review is a core competency
 - Sustained network of authors, reviewers, editors to provide expertise
 - Existing infrastructure

Support is needed throughout the reviewer career arc



Early Career
Researchers



Established
Career
Researchers

Source: Wiley Peer Reviewer Study, 2015

Warne, V. (2016) *Learned Publishing*, 29: 41–50. doi: 10.1002/leap.1002.

Community Engagement and Collaboration

- Widespread support amongst ACS Editors, editorial boards, and author/reviewer community
- ACS Education Division provided expertise in instructional design best practices, learning management platform options
- ACS Editors developed course content and design in collaboration with ACS staff

FROM OUR EDITORS

What advice do you have for peer reviewers?



Tell us about your experience as a reviewer



Why are peer reviewers so important?



ACS Reviewer Lab Launched August 2017



- Free, online course featuring six interactive modules, resources, and assessments
- Covers basics, ethics, writing tips
- Alignment with COPE and ACS ethical guidelines
- Provides certification of completion after passing the final assessment
- Integration with ORCID, single sign-on for ACS users
- Expands pool of qualified reviewers

A screenshot of the ACS Reviewer Lab website. The header includes the ACS Publications logo with the tagline "Most Trusted. Most Cited. Most Read." and navigation links for HOME, MODULES, RESOURCES, FAQ, and PROFILE. A search bar and buttons for "Download certificate" and "LOGOUT" are also present. The main content area is titled "Get started with ACS Reviewer Lab" and features a central video player showing a grid of six modules. To the right, there are six numbered sections, each with an icon and a brief description: 1. INTRODUCTION TO PEER REVIEW, 2. ETHICS IN PEER REVIEW, 3. PREPARING FOR REVIEW, 4. ASSESSING SIGNIFICANCE AND TECHNICAL QUALITY, 5. ASSESSING PRESENTATION AND READINESS FOR PUBLICATION, and 6. WRITING YOUR REVIEW. A welcome message and contact information are located at the bottom of the page.

ACS Publications
Most Trusted. Most Cited. Most Read.

HOME MODULES RESOURCES FAQ PROFILE

Search... HELP

Download certificate LOGOUT

Get started with ACS Reviewer Lab

1. INTRODUCTION TO PEER REVIEW
What is peer review? Learn the basics of peer review and the critical role it plays in scientific publication.

2. ETHICS IN PEER REVIEW
Learn how to deal with difficult ethical issues, potential conflicts of interest, and personal biases in the peer review process.

3. PREPARING FOR REVIEW
Every journal is unique, and the scientific literature is constantly evolving. Preparation before evaluating a manuscript will result in a more thorough review.

4. ASSESSING SIGNIFICANCE AND TECHNICAL QUALITY
Evaluating scientific soundness and potential impact is a key function of the reviewer. Learn how to effectively gauge impact and rate technical quality.

5. ASSESSING PRESENTATION AND READINESS FOR PUBLICATION
Presentation is key. Use these tools to evaluate manuscript presentation and identify potential issues related to safety and data.

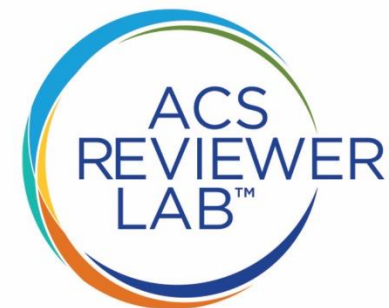
6. WRITING YOUR REVIEW
What makes a good review? Learn how to write a quality review and convey your ideas with clarity.

Welcome to ACS Reviewer Lab! To begin, simply click on any module to the right. You may take the course in any order you'd like, but must complete all modules and take a final assessment to receive a certificate of completion.

Once you've started, you have one month to complete all modules and the final assessment. We'll follow your progress and help you stay on track with reminders.

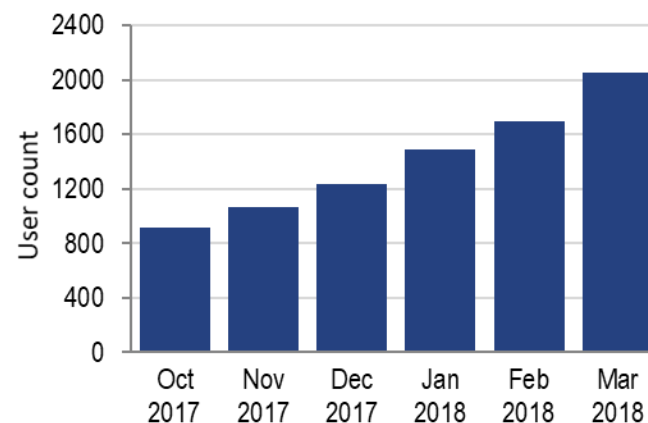
We welcome your feedback on all aspects of the course. Please contact us at support@acs.org with any feedback, questions or concerns.

ACS Reviewer Lab: Progress to Date

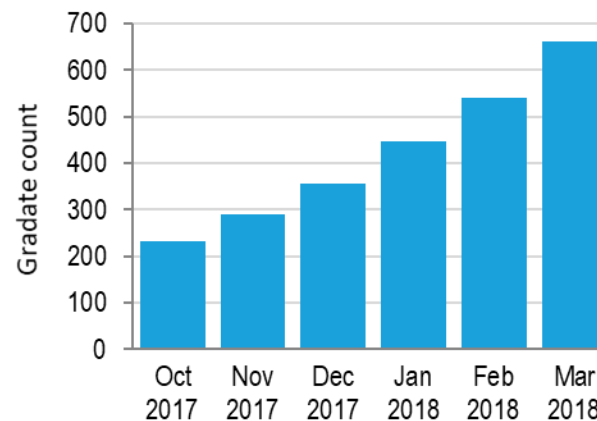


- >2000 users and >650 graduates since soft launch
- 72% of users are early career researchers (Assistant/Associate Professor, Post-doctoral researchers, PhD students)
- ~55% of users are based outside the US
- Roadmap:
 - Translations to Chinese and Japanese
 - Integration with ACS member benefits
 - Larger marketing campaigns

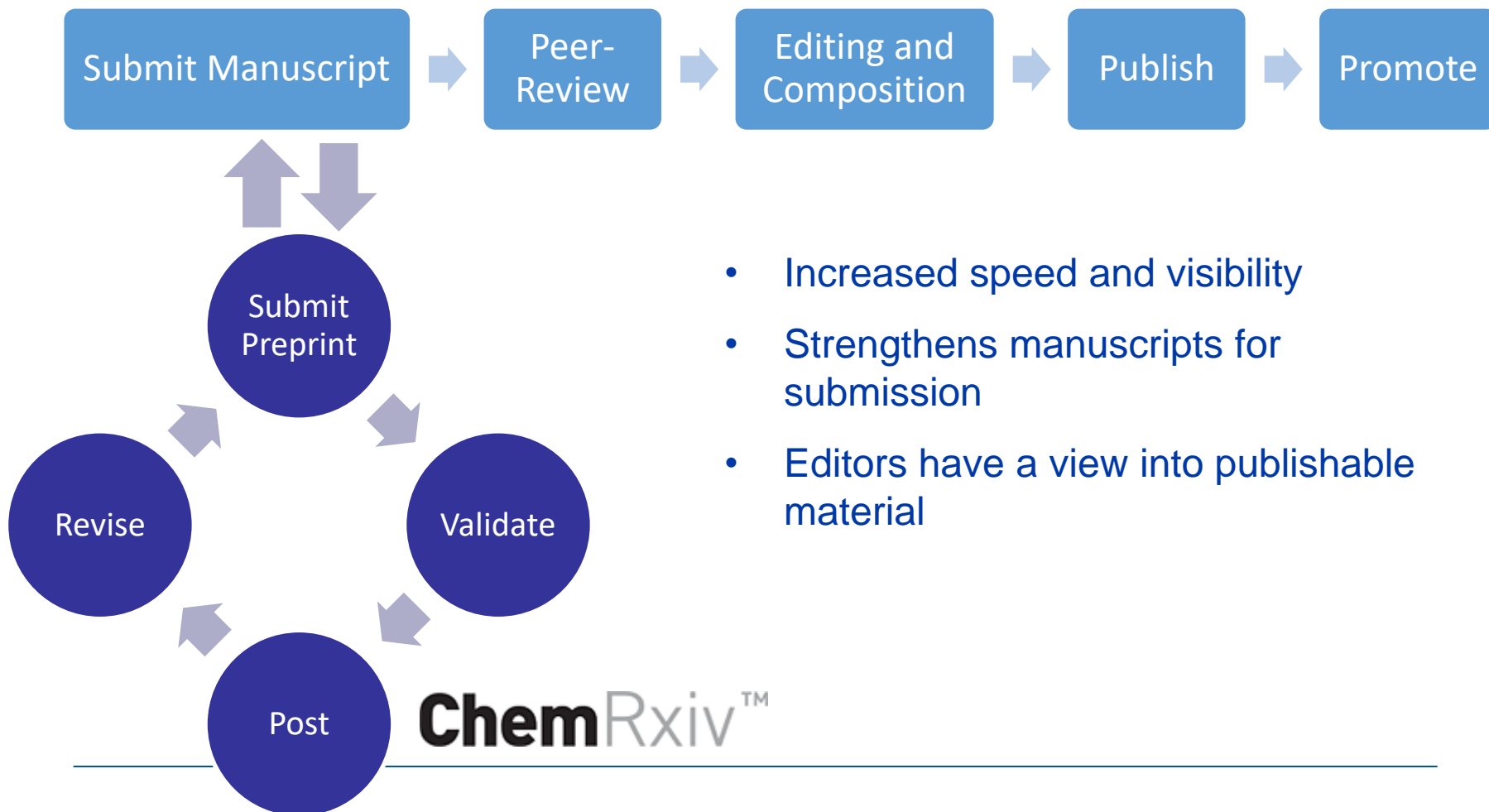
Cumulative Users by Month



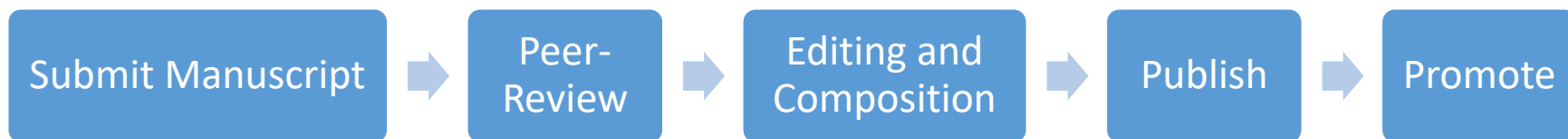
Cumulative Graduates by Month



How Can Publishers and Societies Expand Services to Provide Added Value?



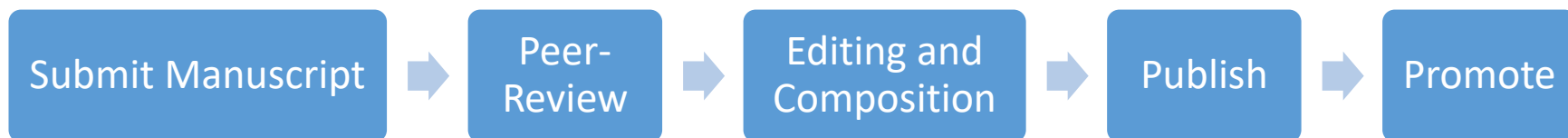
How Can Publishers and Societies Expand Services to Provide Added Value?



- Service to next generation of active researchers, authors, reviewers
- Increased pipeline of reviewers



How Can Publishers and Societies Expand Services to Provide Added Value?



- Literature search and awareness
 - Reference management
 - Lab management and collaboration
 - Funding
 - Data management
 - Data and protocol sharing
 - Data analysis
 - Journal selection
 - Figures and data workup
 - Language editing
 - Assessment
 - Sharing
 - Etc.
-

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