Supporting the Researcher Lifecycle: Beyond Traditional Publishing

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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.

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”
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

Sources: ACS Author Survey, June 2015 to April 2018
ACS Submission Data, 2015 to date
How Do Publishers Support Researchers?

**Traditional Publishing Workflow**

1. Submission → Peer-Review → Editing and Composition → Publish → Promote

**More generally…**

1. Take In Content → Validate → Enhance → Disseminate → Promote

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

- Research data
- Preprints
- Conference presentations
Societies Enable Culture Changes

culture

noun · UK /ˈkʌltʃər/ US /ˈkʌltʃər/

[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

Source: Cambridge Advanced Learner’s Dictionary & Thesaurus
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

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

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

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ChemRxiv Beta launched August 2017

- 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
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

Source: Wiley Peer Reviewer Study, 2015
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
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
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
How Can Publishers and Societies Expand Services to Provide Added Value?

- Increased speed and visibility
- Strengthens manuscripts for submission
- Editors have a view into publishable material
How Can Publishers and Societies Expand Services to Provide Added Value?

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

Submit Manuscript ➔ Peer-Review ➔ Editing and Composition ➔ Publish ➔ Promote

Training & Certification

ACS Chemistry for Life

ACS Reviewer Lab™
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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