

arXiv Update - January 2016

arXiv started 2015 with an important milestone as we added the one-millionth paper at the end of December 2014 ([press release & video](#)). Since its inception in 1991 with a focus on the high energy physics community, arXiv has significantly expanded both its subject coverage and user base. During 2015, the repository saw **105,000 new submissions and over 139 million downloads** from all over the world. arXiv has international scope, with submissions and readership from around the world, and collaborations with U.S. and foreign professional societies and other international organizations.

arXiv's funding and governance is based on a membership program that engages libraries and research laboratories worldwide that represent the repository's heaviest institutional users. We are pleased to report that we currently have 188 members representing 23 countries. arXiv's sustainability plan is founded on and presents a [business model](#) for generating revenues. Cornell University Library (CUL), the [Simons Foundation](#), and a global collective of institutional members support arXiv financially. The financial model for 2013-2017 entails three sources of revenues:

- CUL provides a cash subsidy of \$75,000 per year in support of arXiv's operational costs. In addition, CUL makes an in-kind contribution of all indirect costs, which currently represents 37% of total operating expenses.
- The Simons Foundation contributes \$50,000 per year (is raised to \$100,000 starting in 2016) in recognition of CUL's stewardship of arXiv. In addition, the Foundation matches \$300,000 per year of the funds generated through arXiv membership fees.
- Each member institution pledges a five-year funding commitment to support arXiv. Based on institutional usage ranking, the annual fees are set in four tiers from \$1,500-\$3,000.

In 2015, Cornell raised approximately \$372,000 through membership fees from 188 institutions and the total revenue (including CUL and Simons Foundation direct contributions) is around \$815,511. We are grateful for Simons Foundation's support. The gift has encouraged long-term community support by lowering arXiv membership fees and making participation affordable to a broader range of institutions. This model aims to ensure that the ultimate responsibility for sustaining arXiv remains with the research communities and institutions that benefit from the service most directly.

Since we started the arXiv sustainability initiative in 2010, an integral part of our work has been assessing the services, technologies, standards, and policies that constitute arXiv. Here are some of our key accomplishments from 2015 to illustrate the range of issues we have been trying to tackle. Please see the [2015 Roadmap](#) for a fuller account of our work.

- Evaluated the arXiv administration processes in light of evolving moderation tools and staffing needs and created and posted a new position (arXiv Operations Manager) to ensure a more productive administrative staffing configuration.
- Reviewed the current arXiv endorsement procedures and policies across all subject categories for seeking greater uniformity and transparency.
- Proposed and modified a new appeal process to work toward uniform policies across all subject categories.
- Continued improving tools and interfaces to allow moderators to interact more directly and efficiently with the arXiv system and administrators based on input from the Scientific Advisory Board and moderators (*to be continued in 2016*).
- Initiated a process to update, reorganize, and better document the TeX system, which is a central component of our article processing and will continue this project in 2016.
- Added ORCID author identifier support for better interoperability with other repositories implementing authority control and also as a route toward providing institutional statistics for member organizations.
- Began to review and refine the "stock" messages used by arXiv administrators when communicating with submitters and other arXiv users to improve their usefulness.
- Developed a set of questions for assessing and accepting new subject domains to arXiv.
- Piloted an online donation button to experiment with ways to expand arXiv's revenue sources (generated \$16,000 in one week).
- Investigated interoperability requirements to enable communication/exchange between arXiv and institutional repositories.
- Maintained worldwide network of arXiv moderators--over 150 subject experts who verify that submissions are topical and of interest to the scientific community, follow accepted standards of scholarly communication, and are classified in the appropriate subject categories.
- Held discussions with NSF program managers to better understand how arXiv's ongoing operations and new initiatives might best fit in to NSF programs.
- Held an annual meeting for the Scientific Advisory Board (SAB) and Member Advisory Board (MAB) to discuss IT development priorities, financial state, moderation tools and policies, and fund raising strategies.

From the users' perspective, arXiv continues to be a successful, prominent subject repository system serving the needs of many scientists around the world. However, under the hood, the service is facing significant pressures. The conclusion of the recent SAB and MAB annual meetings was that, in addition to the current business model with a focus on maintenance, the arXiv team needs to embark on a significant fund raising effort, pursuing grants and collaborations. We need to first create a compelling and coherent vision to be able to persuasively articulate our fund raising goals beyond the current sustainability plan that aims to support the baseline operation. We'd like to use the approaching 25th anniversary of arXiv as an important milestone to engage us in a series of vision-setting exercises. The [2016 roadmap](#) includes our goals within the scope of the current business model. In addition, we have developed an initial [arXiv review strategy](#) to be refined and implemented during 2016.

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If you are interested in getting updates from the arXiv team and have not yet signed up for the mailing list, send an email message to: arxiv-support-updates-L-request@cornell.edu. Leave the subject line blank and the body of the message should be a single word: *join*