

arXiv Update - January 2015

arXiv has started 2015 with an important milestone as we added the one-millionth paper at the end of December'14 ([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 2014, the repository saw **90,000 new submissions** and **close to 81 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 **183 members** representing **24 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 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 2014, Cornell raised approximately \$341,000 through membership fees from 183 institutions and the total revenue (including CUL and Simons Foundation direct contributions) is around \$766,000. We are grateful for Simons Foundation's support. The gift has encouraged long-term community support by lowering arXiv membership fees, 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 have 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 2014 to illustrate the range of issues we have been trying to tackle. Please see the [2014 Roadmap](#) for a fuller account of our work.

User Support and Moderation

- Recruited over 12 new physics moderators. arXiv is a moderated scholarly communication forum informed and guided by scientists and the scientific cultures it serves. Over 150 experts worldwide moderate submissions to verify that they are topical and of interest to the scientific community, follow accepted standards of scholarly communication, and are classified in the appropriate subject categories.
- Worked with the Physics Advisory Committee to analyze and redesign moderation coverage and workflow for the General Physics category, including the recruitment and hiring of a General Physics moderator
- Started working with various stakeholders to define the role of the Scientific Director with respect to daily moderation processes and workflows.

Technical Features and Infrastructure

- Started 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 2015*).
- Made several improvements such as expanding the arXiv ID to be prepare for 10,000 submissions/month milestone and adding automatic classification checks to submission system (integrated with moderator alerting).
- Created a summary documentation the arXiv codebase arrangement, technologies, and areas of personnel expertise.
- Started integrating an automatic overlap detection application developed by Paul Ginsparg to comparing new submissions with existing corpus and generate notifications for administrators and moderators.

Governance, Communication, & Organizational Model

- Recruited Chris Myers as the interim Scientific Director to formulate overall scientific direction of the service and its policies ([arXiv's organizational model](#)).
- Formed several [Member Advisory Board](#) (MAB) and [Scientific Advisory Board](#) (SAB) subgroups to focus on specific issues such as the IT prioritization, recruitment of a scientific director, evaluation of membership & revenue model.
- Appointed two new SAB members based on a nomination and election process specified by the [SAB bylaws](#).

New Partnerships & Communication

- Continued the dialogue with several publishers and societies to assess the idea of facilitating deposit of author version of articles to arXiv after they are published (*work-in-progress*).
- Engaged the MAB members in an informal survey of arXiv user experiences from their home institutions to expand our understanding preferences and current and emerging use patterns.
- Held an annual meeting for SAB and MAB to discuss IT development priorities, financial state, moderation tools and policies, and fund raising strategies.

Our 2015 plans are outlined in the [2015 Roadmap](#). We are grateful for your continuing support of arXiv and welcome your questions and

comments.

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