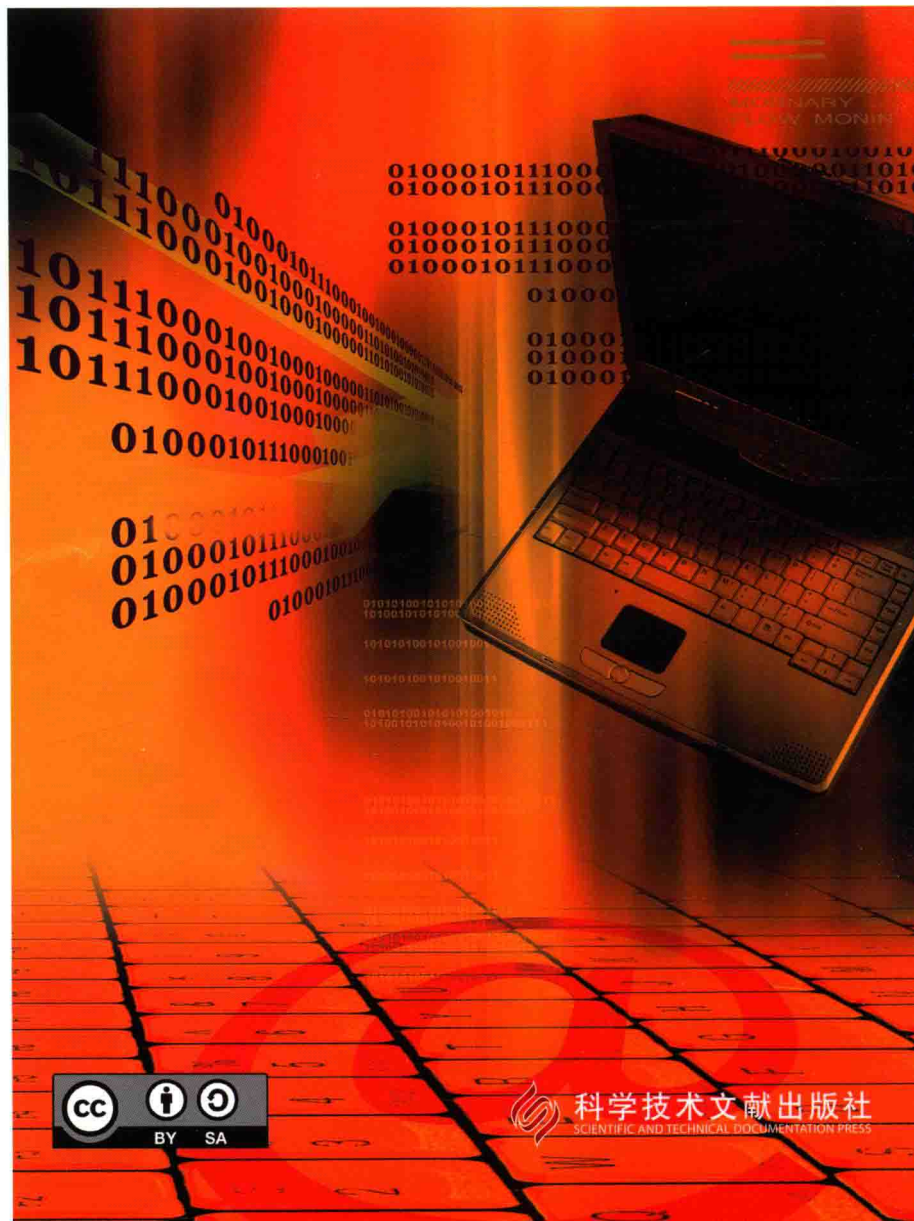


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Oya Yildirim Rieger 主审

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前言



预印本平台 (arXiv.org) 为全世界的作者和研究人员提供了一个科学研究的开放获取知识库, 对所有用户免费开放。始于 1991 年 8 月, 由 Paul Ginsparg 创建, 2001 年将平台的运营、编辑、经济和管理转移到康奈尔大学图书馆。如今, 它不仅改变了物理学多个领域的学术交流方式, 而且在数学、计算机科学、定量生物学、定量金融学和统计学等领域发挥着越来越突出的作用。本书介绍 arXiv.org 的经营管理模式、用户需求调查及发展方向。

本书详细具体地介绍了 arXiv 的创建与发展、参与 arXiv 的准则, 以及为减少 arXiv 的经济负担所提出的可持续发展倡议等。详细介绍了 arXiv 的收入来源与运营成本, 以及成为会员的好处和方法流程。完整说明了 arXiv 的管理模式, 重点介绍了其在康奈尔大学图书馆的运营, 包括人员配备、保存策略、学科扩展等; 详细解答了关于捐款和资助的各种问题。最后结合时间轴回顾了 2015 年 arXiv 愿景设置和资金筹集的策略, 并结合用户调查报告, 总结用户对 arXiv 的意见和建议,



分析调整和改进的方向。本书中英文结合, 相对全面地介绍了 arXiv 的组织、功能、已有成果、发展方向等。

本书知识内容的贡献者是 Oya Yildirim Rieger 女士。顾立平负责统筹编译、校对; 最终稿件由 Oya Yildirim Rieger 主审。赵越协助本书绝大多数内容的编译, 段美珍和王楠协助若干内容的编译和校对, 杨良斌通读本书全文, 史盈盈和丁利芳参与编辑。本书若有任何缺失、不足之处, 应属编者顾立平之责任。

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1 Genral Questions



1.1 What Is arXiv

arXiv.org is widely acknowledged as one of the most successful open-access digital archives. In August 1991, Paul Ginsparg created arXiv as a repository for preprints in physics; in 2001, it moved to Cornell University Library (CUL). Now, it has transformed scholarly communication in multiple fields of physics and plays an increasingly prominent role in mathematics, computer science, quantitative biology, quantitative finance, and statistics. It is embedded in the research workflows of these subjects and allows the rapid dissemination of scientific findings. By providing open access to researchers worldwide, arXiv makes science more democratic.

As of August 2012, arXiv contains more than 770,000 e-prints. In 2011, the repository saw 76,578 new submissions and close to 50 million downloads from all over the world. arXiv is international in scope, with mirror sites in nine countries and collaborations



with U.S. and foreign professional societies and other international organizations.

1.2 arXiv's Key Principles

arXiv provides an open-access repository of scientific research to authors and researchers worldwide. It is a moderated scholarly communication forum informed and guided by scientists and the scientific cultures it serves. Access via arXiv.org is free to all end-users, and individual researchers can deposit their own content in arXiv for free. Please see the arXiv Principles document for the operational, editorial, economic, and governance principles.

1.3 How Are Submissions to arXiv Moderated

Material submitted to arXiv is expected to be interesting, relevant, and valuable to those disciplines. arXiv reserves the right to reject or reclassify any submission. Expert moderators review submissions to verify that they are topical and referable scientific contributions that follow accepted standards of scholarly communication (as exemplified by conventional journal articles). Please see <http://arxiv.org/help> for information about submission and review policies.

2 Sustainability Initiative



2.1 Purpose

Since 2010, Cornell University Library (CUL)'s sustainability planning initiative has aimed to reduce arXiv's financial burden and dependence on a single institution, instead creating a broad-based, community-supported resource. To keep an open-access academic resource like arXiv sustainable, administrators must continue to enhance its value based on the needs of all its user communities, as well as cover the associated operating costs. Cornell's initiative strived to strengthen arXiv's technical, service, financial, and policy infrastructure.

2.2 Outcomes

As an interim strategy, CUL initially established a voluntary institutional contribution model, inviting pledges from 200 libraries and research laboratories worldwide that represent arXiv's heaviest institutional users. During this 2010-2012 planning process, CUL



sought input from a wide range of stakeholders to position arXiv as a collaboratively governed, community-supported resource. The planning effort also included a meeting with representatives of several publishers and societies to discuss the feasibility and desirability of collaborating, which would improve crosslinking, interoperability, and lifecycle support for research material.

The sustainability planning process aimed to investigate how to diversify revenue models, ensure that arXiv meets a set of governance principles, and provide transparent and reliable community-supported service. arXiv's membership model is the key outcome of the three-year planning process, which was facilitated by a planning grant from the Simons Foundation. The background information about the planning activities is available at <http://arxiv.org/help/support>.

3 arXiv Membership Model



3.1 The Goals of the New arXiv Membership Program

To help with arXiv’s support and governance, the membership program aims to engage libraries and research laboratories worldwide that represent arXiv’s heaviest institutional users. Each member institution pledges a five-year initial funding commitment to support arXiv. arXiv’s sustainability plan is founded on arXiv’s operating principles and presents a business model for generating revenues.

3.2 The Revenue Model for arXiv

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 and 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. Cornell's goal is to raise \$300,000 per year through membership fees generated by approximately 126 institutions.

The gift aims to encourage long-term community support by lowering arXiv membership fees, making participation affordable to a broader range of institutions. This support helps ensure that the ultimate responsibility for sustaining arXiv remains with the research communities and institutors that benefit from the service most directly.

3.3 arXiv's Operating Costs

arXiv's operating costs for 2013-2017 are projected to average