

Open Access and repositories : beyond green and gold

Access to previous results and their reuse in new research are at the very basis of scientific progress. In the era of e-Science and when the Open Access paradigm is changing scholarly communication, there is an unprecedented need for rapid and effective online access to scientific information. High-Energy Physics (HEP) pioneered innovation in scholarly communication with the invention of the Web, originally a vehicle of scientific information, and with the inception of online preprint repositories, introducing Open Access to preliminary scientific results. With the imminent start-up of the CERN LHC accelerator, one of the flagships of European science, the HEP community urgently needs a new platform for scientific information. A multi-disciplinary collaboration of academies, research laboratories and industrial partners has developed a vision to build such an innovative e-infrastructure: HEPIS (High Energy Physics Information System). HEPIS will integrate present European and American databases and repositories to host the entire corpus of the HEP literature and become the reference HEP scientific information platform worldwide. It will empower scientists with new tools to discover and access the results most relevant to their research; enable novel text- and data-mining applications; deploy new metrics to assess the impact of articles and authors. In addition, it will introduce the Web2.0 paradigm of user-enriched content in the domain of sciences with community-based approaches to the peer-review process. The HEPIS open-source platform will be scalable and portable to other fields of science. The HEPIS Network strives to provide young researchers with post-university multi-disciplinary training to form future leaders in information technology, management of digital libraries and Open Access publishing.