

# Towards Open Access publishing

A practical approach for particle physics

Robert Aymar, Director General, CERN

February 15-16, 2007

Scientific Publishing in the European Research Area  
Access, Dissemination and Preservation in the Digital Age



# Particle physics information

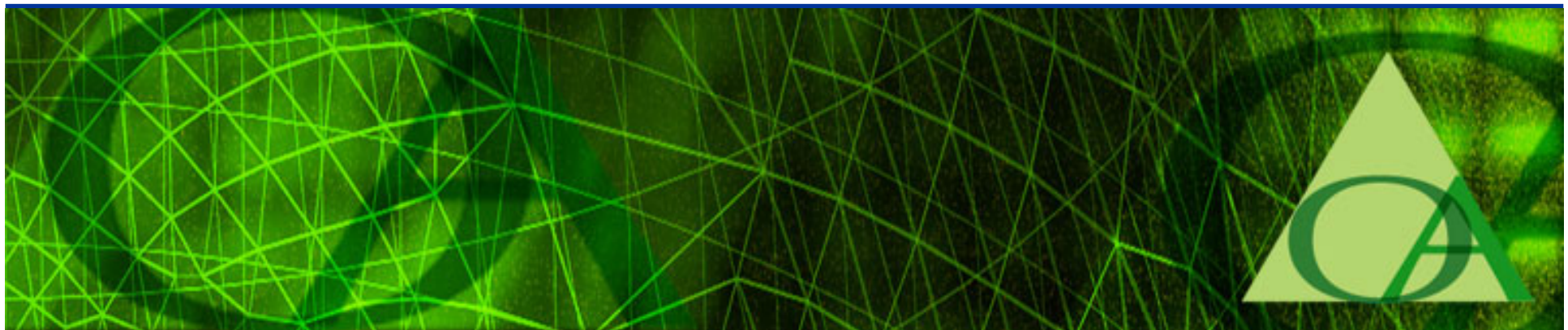
Unique examples from an innovative community

Implemented and fully embraced by the world:

- Preprints (since the '50s)
- WWW (since the early '90s)
- arXiv.org (since the early '90s)

In development

- GRID (since the late '90s)
- OA publishing (emerging)





# Dissemination of information

The role of CERN and the particle physics community

Based on a long tradition

- The CERN Convention (1953) contains what is effectively an early Open Access manifesto:
  - “... *the results of its experimental and theoretical work shall be published or otherwise made generally available.*”
- Experimental collaborations comprise thousands of scientists from all over the world
- Long-standing cross-border tradition in theoretical physics





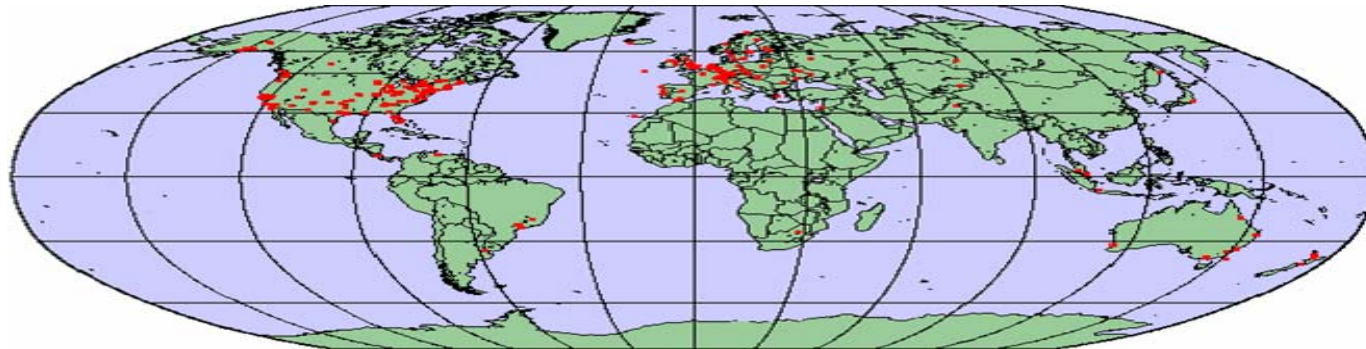
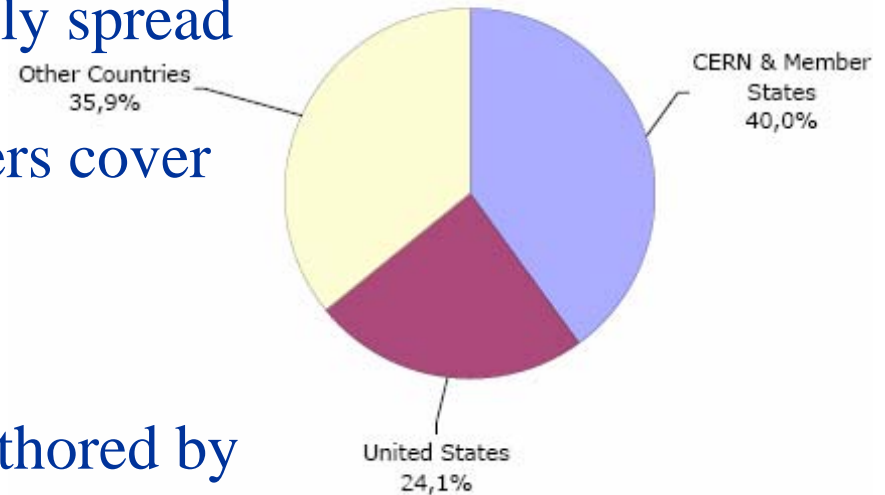
# The HEP publishing landscape

Small enough to be manageable

- Less than 10.000 articles/year evenly spread across the world
- Less than 10 journals by 5 publishers cover 95% of this corpus

A strong collaboration culture

- Experimental papers (~15%) co-authored by several 100s-1000s physicists
- Theoretical papers (~85%) by small groups, but often across countries



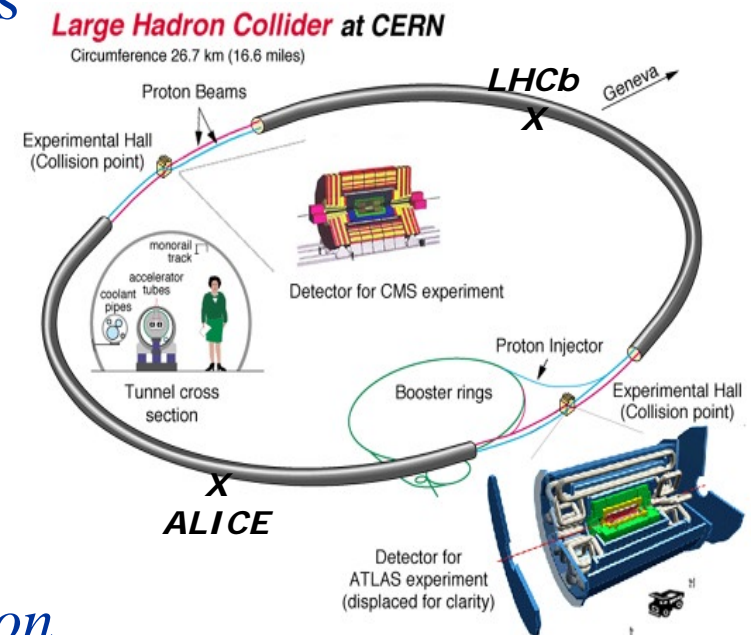




# Reforming the publishing model

Meet the LHC challenge

- The subscription model is no longer sustainable for the scientific community
- Particle physics has long achieved “Green OA” through subject repositories such as arXiv.org (the first of its kind!)
- Time is ripe for “Gold OA” in particle physics
- Act in time for the first LHC results: publish under a new model
- CERN and leading particle physics funding agencies have taken the lead to spearhead this change
- We are natural supporters of the “*Petition for guaranteed public access to publicly-funded research results*”  
<http://www.ec-petition.eu/>





## Our goals

- Online access to the literature with no restriction for any reader
- OA Publishing without financial barriers for any author
- Maintain and stimulate a wide choice of high-quality journals
- An “author-friendly” copyright agreement
- High peer-review and editorial standards
- Competition among journals
- Get spiraling subscription costs under control





# Roles in scientific research

- Research funding agencies/governments
  - Natural interest in good dissemination of research
  - Do not usually include dissemination costs in research grants.
- Researchers
  - The key players. Rising awareness for OA potential
- Publishers
  - Organising peer review and provide official version of record
  - Provide additional *premium* services (paper editions, reprints, ...)
- Librarians
  - Organize access to the scientific literature
- The public
  - The ultimate payers ... Who else has more right to read?





# SCOAP<sup>3</sup>

## Sponsoring Consortium for Open Access Publishing in Particle Physics

- Sponsoring publications in OA journals through a consortium is the most promising and feasible business model for particle physics
- Potential partners:
  - Funding agencies worldwide
  - Particle physics laboratories worldwide
  - Major author communities
  - Libraries in and outside particle physics







# The approach of SCOAP<sup>3</sup>

- Sponsor all publications in HEP high-quality journals; sponsor HEP articles in high-quality broad-band journals
- Fundraising by redirecting subscription budgets to SCOAP<sup>3</sup>
- Open tendering process and sign contracts with qualified publishers
- Make all sponsored articles available through a single repository. Offer additional services to the community, i.e. citation analysis, text mining.
- **Sponsor all articles relevant for the field; estimated cost 5-10 M€/year**
- May seem a lot, but compare it to traditional journal subscriptions integrated over all particle physics institutes:

**One title only:** 16,000€/year × 300 LHC institutes = 4.8M €/year !





A highly complex move with many parties involved, but ...

**40 Funding agencies**

**400 M€**  
(Excluding manpower costs)

**1000 contracts**

**the ATLAS detector is being completed for the LHC!**

# SCOAP<sup>3</sup> - CERN collaborative experience

**40 Funding  
agencies**

**5-10 M€**

**10 contracts  
with publishers**

**Establish OA publishing by using the blueprint used  
to finance and build the largest experiments ever!**





# Addressing some concerns

- What about developing countries?
  - In our worldwide model, SCOAP<sup>3</sup> journals will consider all articles equally, independent of the affiliation of the authors. All readers will equally enjoy access to the published papers
- Can authors be asked to pay in order to publish?
  - Charges for SCOAP<sup>3</sup> journals will be covered centrally: the model is transparent for authors







# Summary

- A significant fraction of key particle physics journals is ready for a rapid transition to Open Access under a consortium-funded model.
- A consortium is about to be created. Publishers will soon be invited to bid
- The LHC start-up in 2007 is a unique opportunity for particle physics

**Publishers should continue to ensure the quality of publications**  
**Libraries should remain the record keepers**

Open Access Newsletter, 2<sup>nd</sup> December 2006

Peter Suber's [Predictions for 2007](#)

*"The most ambitious current initiative is the CERN project to convert all the TA journals in particle physics to OA ... If the CERN project succeeds, and I predict that it will, then it will trigger creative and constructive conversations about how to do the same in other fields ..."*

