Learning by Doing:

Early Operation of the Portico Archiving Service

Eileen Fenton
Executive Director, Portico

CNI
December 5, 2006

Portico's Mission

To preserve scholarly literature published in electronic form and to ensure that these materials remain available to future generations of scholars, researchers, and students.

Portico's History

- In 2002, JSTOR initiated a project known as the Electronic-Archiving Initiative, the precursor to Portico.
- The goal was to facilitate the community's transition to secure reliance upon electronic scholarly journals by developing a technological infrastructure and sustainable archive able to preserve scholarly e-journals.
- Portico was launched in 2005 by JSTOR and Ithaka, with support from The Andrew W. Mellon Foundation.
- Portico is a not-for-profit organization with a mission and singular focus to provide a permanent archive of electronic scholarly journals.

Portico's Approach: Content Scope

In scope:

- Electronic scholarly, peer reviewed journals
- Intellectual content of the journal, including text, tables, images, supplemental files
- Limited functionality such as internal linking

Out of scope:

- Full features and functionality of publisher's delivery platform
- Ephemeral look and layout of today's HTML rendition of a journal

Portico's Approach: Migration Supplemented with Byte Preservation

- Publishers deliver "source files" of electronic journals (SGML, XML, PDF, etc.) to Portico.
- Using specialized software Portico converts proprietary source files from multiple publishers to an archival format suitable for long-term preservation. Portico's preservation format is based on the NLM Archiving DTD.
- Source and normalized files are deposited in the archive. Once deposited, content must remain in the archive. To date more than 260,000 articles are archived.
- Portico migrates files to new formats as technology changes.

Portico's Approach: Access

- Portico offers access to archived content to only those libraries supporting the archive.
- Portico's delivery infrastructure leverages JSTOR's existing technology and investment.
- Access is offered only when specific trigger event conditions prevail **and** when titles are no longer available from the publisher or other sources.

Portico's Approach: Access

- Trigger events include:
  - When a publisher ceases operations and titles are no longer available from any other source.
  - When a publisher ceases to publish and offer a title and it is not offered by another publisher or entity.
  - When back issues are removed from a publisher's offering and are not available elsewhere.
  - Upon catastrophic failure by publisher delivery platform for a sustained period of time.

Portico's Approach: Access

- Trigger events initiate campus-wide access for all libraries supporting the archive regardless of whether a library previously subscribed to the publisher's offering.
- Until a trigger event occurs select librarians at participating libraries are granted password-controlled access for archive audit and verification purposes.
- Libraries may rely upon the Portico archive for post-cancellation access, **if** a publisher chooses to name Portico as one of the mechanisms designated to meet this obligation.
- To date 70% of participating publishers have elected this option.

Sources of Support

- Support for the archive comes from the primary beneficiaries of the archive - publishers and libraries.
- Contributing publishers supply content and make an annual financial contribution ranging from $250 to $75,000 depending upon journal revenues.
- To date more than 5,300 journals have been promised to the Portico archive. Participating publishers come from across the spectrum, for example:
  - Elsevier (commercial)
  - Oxford University Press (university press)
  - American Institute of Physics (scholarly society)
  - The Berkeley Electronic Press (e-only publisher)

Sources of Support

- Libraries make an Annual Archive Support (AAS) payment based upon total library materials expenditures. AAS payments range from $1,500 to $24,000 annually.
- All libraries that initiate support for Portico in 2006 and 2007 are designated “Portico Archive Founders” and make a significantly reduced AAS payment.
- To date more than 130 libraries are Portico Archive Founders. Participants range from Grove City College to the University of California system.

Emerging Themes and Lessons: Publishers

- Publishers understand the library market now demands robust preservation arrangements.
- Publishers want to be a part of the archiving solutions that libraries support.
- Publishers are developing multi-layered strategies.

Emerging Themes and Lessons: Libraries

- Libraries are actively evaluating the scope of their archival responsibilities and options for meeting these.
- Multi-layered strategies responding to library needs to preserve a wide array of e-content are beginning to emerge.
- Breadth of archival strategy varies with institutional size.
- E-preservation strategies and print collection management strategies can usefully inform one another.

Emerging Themes and Lessons: Implications

- Libraries should continue to make their preservation needs and preferred strategies known to publishers.
- Publisher and library preservation strategies benefit from being informed by one another.
- Overt communication of archival strategies or intentions assists both parties.

Emerging Themes and Lessons: Archive Operations

- Like digital preservation, electronic publishing is still evolving. Best practices are still emerging.
  - Publishers' platforms, formats and data structures are shifting.
  - E-journal content is now frequently in 3 formats: current e-formats, early e-formats and digitized print.
  - Archives must be prepared to respond to – and influence - the complexity of this still shifting landscape.

Emerging Themes and Lessons: Archive Operations

- Journal content is complex – and not always tidy.
  - Online journals may be the product of multiple data streams. Complexity increases opportunities for errors in content.
  - Publisher systems are oriented toward on-time publication. Preservation issues are not the focus.
    - PDF validity may vary
    - Early e-issues reveal many production issues.
  - Publishers are open to input about how to create publications that are more easily archived. Archives like Portico can play a consultative role.

Emerging Themes and Lessons: Archive Operations

- Gathering and communicating holdings information is challenging.
  - Publishers do not have readily available publication histories or inventories.
  - Gathering holdings information in a machine-readable way is a challenge.
  - Absent solid holdings data, affirming completeness of the archive is difficult.
  - Communicating holdings data across all interested parties – publishers, libraries, archives – extremely difficult.
  - This is a fruitful and important research area.

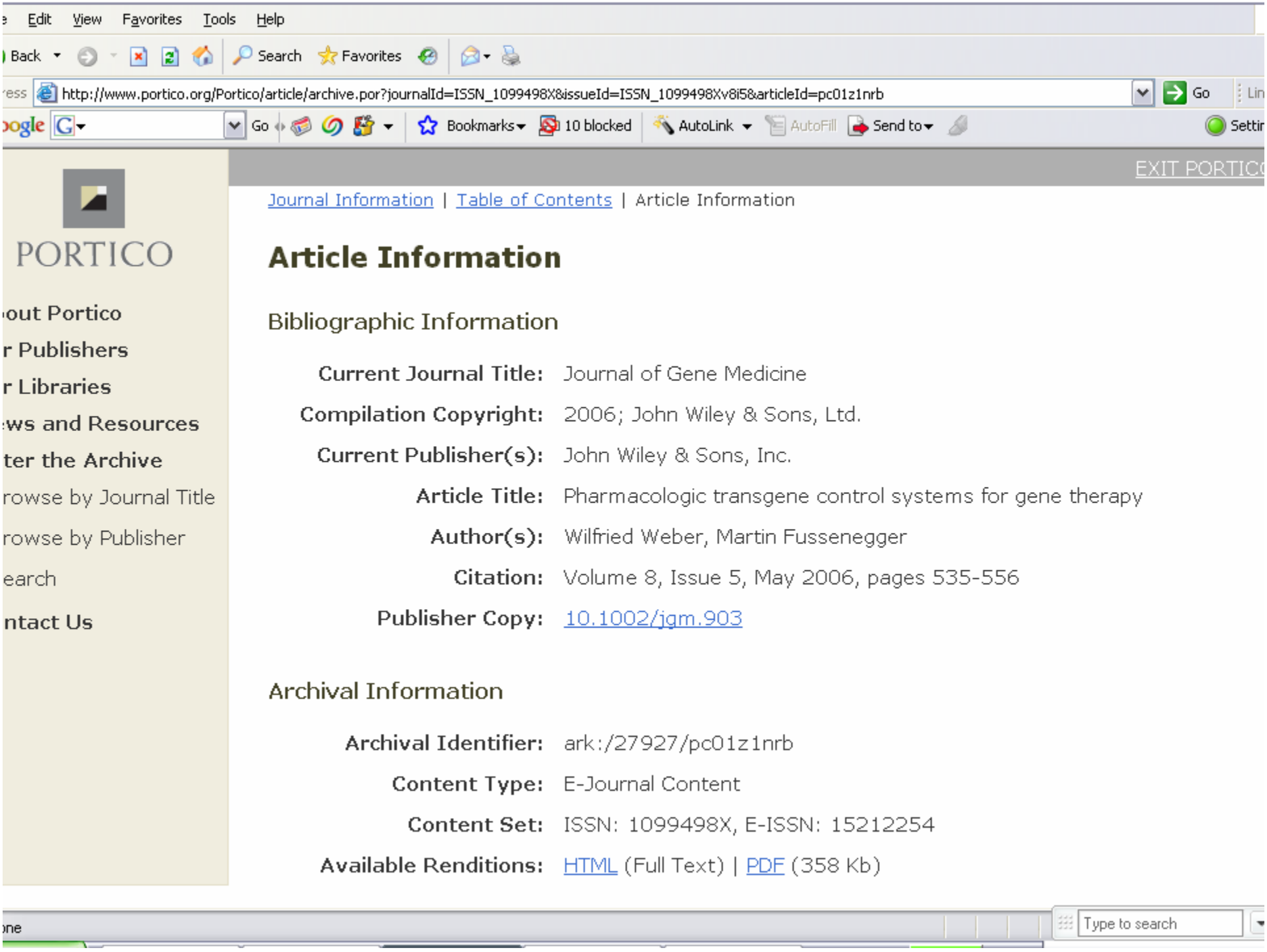
Emerging Themes and Lessons: Archive Operations

- File usability vs. validity creates special challenges.
  - Files may be usable to a reader but not technically valid. Creates special format migration concerns.
  - Files may be technically valid but not usable to readers.
  - Helpful to tackle this issue while content creator can participate in the resolution.
  - This issue impacts digital repositories of all types.
  - A good area for collaborative tool development.

Journal of Gene Medicine

Currently published by John Wiley & Sons, Inc.

Volume 8, Issue 5, May 2006


Edit View Favorites Tools Help
Back Search Favorites
http://www.portico.org/Portico/article/archive.por?journalId=ISSN_1099498X&issueId=ISSN_1099498Xv8i5&articleId=pc01z1nrb
Go
Bookmarks 10 blocked AutoLink AutoFill Send to
EXIT PORTICO
PORTICO
out Portico
r Publishers
r Libraries
ws and Resources
ter the Archive
rowse by Journal Title
rowse by Publisher
earch
ntact Us
Journal Information | Table of Contents | Article Information
Article Information
Bibliographic Information
Current Journal Title: Journal of Gene Medicine
Compilation Copyright: 2006; John Wiley & Sons, Ltd.
Current Publisher(s): John Wiley & Sons, Inc.
Article Title: Pharmacologic transgene control systems for gene therapy
Author(s): Wilfried Weber, Martin Fussenegger
Citation: Volume 8, Issue 5, May 2006, pages 535-556
Publisher Copy: 10.1002/jgm.903
Archival Information
Archival Identifier: ark:/27927/pc01z1nrb
Content Type: E-Journal Content
Content Set: ISSN: 1099498X, E-ISSN: 15212254
Available Renditions: HTML (Full Text) | PDF (358 Kb)
Type to search

Journal Title: The Journal of Gene Medicine

Journal Subtitle: A cross-disciplinary journal for research on the science of gene transfer and its clinical applications

Print ISSN: 1099-498X Electronic ISSN: 1521-2254

Publisher: John Wiley & Sons, Ltd.; Chichester, UK

Citation: Volume 8, Issue 5, May 2006, pages 535-556

Electronic pub-date: 28 March 2006

Electronic pub-date: 25 April 2006

Electronic pub-date: 25 April 2006

Publisher Article ID: JGM903

Article DOI: 10.1002/jgm.903

Article SICI: 1099-498X(200605)8:5<535::AID-JGM903>3.0.TX;2-N

Article SICI: 1521-2254(200605)8:5<535::AID-JGM903>3.0.CO;2-2

Pharmacologic transgene control systems for gene therapy

Wilfried Weber *,

Martin Fussenegger *, †

Wilfried Weber [*],

Martin Fussenegger [*,†]

(email: fussenegger@chem.ethz.ch)

[*]Institute for Chemical and Bio-Engineering, Swiss Federal Institute of Technology Zurich-ETH Zurich, ETH Hoenggerberg HCI F 115, Wolfgang-Pauli-Strasse 10, CH-8093 Zurich, Switzerland

Author Notes:

Correspondence to: [†]Institute for Chemical and Bio-Engineering, Swiss Federal Institute of Technology Zurich, ETH Hoenggerberg HCI F 115, Wolfgang-Pauli-Strasse 10, CH-8093 Zurich, Switzerland.

History

Received: 29-11-2005 ; Reviewed: 26-12-2005 ; Accepted: 30-01-2006

Abstract

Pharmacologic transgene-expression dosing is considered essential for future gene therapy scenarios. Genetic interventions require precise transcription or translation fine-tuning of therapeutic transgenes to enable their titration into the therapeutic window, to adapt them to daily changing dosing regimes of the patient, to integrate them seamlessly into the patient's transcriptome orchestra, and to terminate their expression after successful therapy. In recent years, decisive progress has been achieved in designing high-precision trigger-inducible mammalian transgene control modalities responsive to clinically licensed and inert heterologous molecules or to endogenous

Keywords

Geneswitch; inducible expression; vival vector; gene regulation

Contract/Grant Number: 631-065946; Swiss National Science Foundation

Contract/Grant Number: EC Framework 6; Swiss State Secretariat for Education and Research

Contract/Grant Sponsor: Swiss National Science Foundation

Contract/Grant Sponsor: Swiss State Secretariat for Education and Research

Contract/Grant Sponsor: Cistronics Cell Technology GmbH

Introduction

Gene therapeutic interventions in the well-orchestrated and multi-regulated gene networks operating in the human body require (semi-)synthetic trigger-inducible gene switches for optimal fine-tuning of therapeutic transgene expression levels and kinetics to meet the specific needs of the patient [1-3]. Recent advances in heterologous transgene control design have resulted in a portfolio of gene regulation systems responsive to clinically licensed small-molecule drugs such as antibiotics [4-7], steroid hormone analogs [8], [9], rapamycin

control systems will become the prime dosing technology in the gene therapy era.

[Untitled section]

Acknowledgements

The original work on transgene regulation systems was supported by the Swiss National Science Foundation (grant no. 631-065946), the Swiss State Secretariat for Education and Research within EC Framework 6, and Cistronics Cell Technology GmbH, Einsteinstrasse 1-5, CH-8093 Zurich, Switzerland.

References

1 Fussenegger M. The impact of mammalian gene regulation concepts on functional genomic research, metabolic engineering, and advanced gene therapies. Biotechnol Prog 2001; 17: 1-51.

2 Weber W, Fussenegger M. Approaches for trigger-inducible viral transgene regulation in gene-based tissue engineering. Curr Opin Biotechnol 2004; 15: 383-391.

3 Weber W, Fussenegger M. Novel gene switches. In Handbook of Experimental Pharmacology - Conditional Mutagenesis, Feil R, Metzger D (eds). Springer: Berlin, Germany, 2006; in press.

Eileen Fenton
eileen.fenton@portico.org
www.portico.org

Portico Advisory Committee

- John Ewing, American Mathematical Society
- Kevin Guthrie, Ithaka
- Daniel Greenstein, University of California
- Anne R. Kenney, Cornell University Library
- Clifford Lynch, CNI
- Carol Mandel, New York University
- David M. Pilachowski, Williams College
- Rebecca Simon, University of California Press
- Michael Spinella, JSTOR
- Suzanne E. Thorin, Syracuse University Library
- Mary Waltham, Publishing Consultant
- Craig Van Dyck, John Wiley & Sons, Inc.