

Open access: the view from the Wellcome Trust

How philanthropy and non-academic markets are shaping scholarly publishing

11th Fiesole Collection Development Retreat, July 2009

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Overview

- Summary of the Trust's OA policy and how researchers can comply with this policy
- Meeting the costs of OA
- Thoughts on the author pays model
- Compliance
- Next steps

The Wellcome Trust



- Independent charity; UK's largest non-governmental source of funds for biomedical research
- Spends £650 million p.a. in the UK & internationally on our mission; supporting and promoting research to improve human and animal health
- Seeks to improve understanding of the ways science & medicine have developed, & how research affects people and society today
- More information at <http://www.wellcome.ac.uk>

OA at the Wellcome Trust: policy

All research papers – funded in whole or in part by the Wellcome Trust – must be made freely accessible from the PubMed Central and UKPMC repositories as soon as possible, and in any event within six months of the journal publisher's official date of final publication



How can Wellcome researchers comply with OA mandate?

- Route 1
 - ♦ Publish in a open access/hybrid journal – preferred route
- Route 2
 - ♦ Publish anywhere - but self-archive the author manuscript (including changes from peer review process) and make that available from PMC & UKPMC within 6 months of publication
- If a publisher offers neither route then:
 - ♦ Author can suggest revision to the journal's copyright agreement – boilerplate language provided on our website – and see if the publisher will accept this
 - ♦ Look for an alternative publisher

Route 1 – OA/hybrid journal

- Wellcome will meet author-side costs
- In return, the publisher must provide the following services:
 - ♦ deposit, on behalf of the author, the **final version** of the article in PMC, where it must be made **freely available at the time of publication**
 - ♦ license the article such that it can be **freely accessed and re-used**, subject to agreed limits
- Significant number of publishers offer “Wellcome-compliant” author-pays option
 - ♦ e.g. Elsevier, Wiley, BMJPG, PLoS, BMC, BMJPG, Springer, ASBMB, OUP, CUP, SfE, Am Psychol. Assoc, Am Physiol. Soc, ACS etc.
 - ♦ e.g. Elsevier OA article in [html](#) and [xml](#)



Springer Open Choice



Your Research. Your Choice



Route 2: Self-archiving option

- Authors self-archive the author's final manuscript
 - ♦ freely available from PMC/UKPMC within 6 months
- No fee to the publisher is payable for this option
- It is our least preferred option, because
 - ♦ no immediate access
 - ♦ additional burden on researchers
 - ♦ re-use rights are less clear
 - Wellcome/ NPG have developed a licence that explicitly allows text/data mining
- Publishers which allow author self-archiving - in line with max. 6-month embargo - include AAAS, AAI, AACR, AMA.
 - ♦ Note: NPG, SfN, LWW, AACR will deposit author manuscript in UKPMC on authors behalf

Meeting the cost of OA - Wellcome

- Publication costs are legitimate research costs
- Trust estimates that to provide OA to all the research papers it will fund will cost between 1% - 2% of its annual research budget
 - ♦ Over £1m budgeted for in 2008-09; more for 09-10
- Two mechanisms for meeting OA costs
 - ♦ The top 30 Trust-funded institutions have been awarded block grants to cover OA publishing costs
 - ♦ Where block awards are not available we will continue to supplement individual research grants



Author pays model: some thoughts (1)

- The Trust believes the publisher adds value to the research process
 - ♦ These costs, therefore, have to be met
 - ♦ Wellcome only meet OA costs if publisher provides the full suite of services (e.g. deposition in UKPMC, no embargo, full re-use licence)



Author pays model: some thoughts (2)

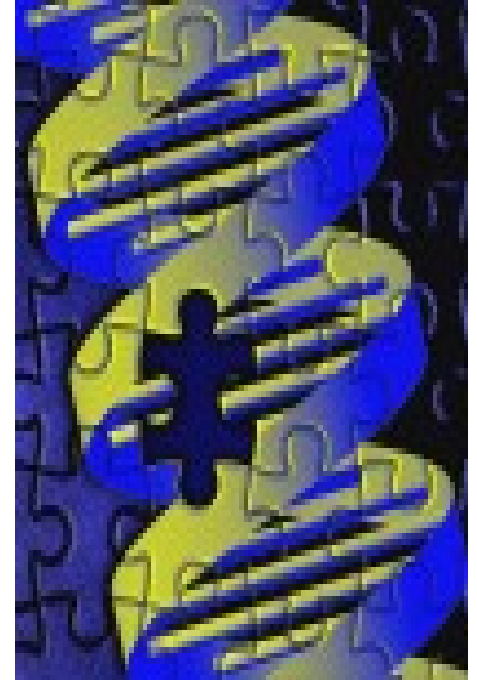
- Is there risk of “double payment” – subscriptions and author fees?
 - ♦ Yes – but the evidence thus far seems to suggest that subscription costs are sensitive to OA payments
 - OUP: The average price increase (2007 to 2008) across all Oxford Journals titles was 6.9%, whereas the average price increase for *Oxford Open* titles (with open access uptake in 2006) was 1.7%.
 - Elsevier: Press released stated that prices increase less than industry average – author-side payments one reason for this
 - Am Physiological Society. Press release stated that the “*nominal increase of 2.5 percent for 2009 subscriptions is due to income from new Author’s Choice Program*”

Author pays model: some thoughts (3)

- Studies conclude that flipping to author side payment will reduce costs:
 - ♦ *If 90% of all articles were made open access upon payment of a publication fee, total saving in the global costs of publishing, distribution and access is estimated £561m per year ([RIN study](#))*
 - ♦ *Savings of £80m to UK HE would be enjoyed by switching to author-pays (i.e. estimate that in 2007 it cost UK HE £230 million to publish using the subscription model; it would have cost £150 million to publish under the open access model ([Houghton study](#)))*

Issues – still to be resolved

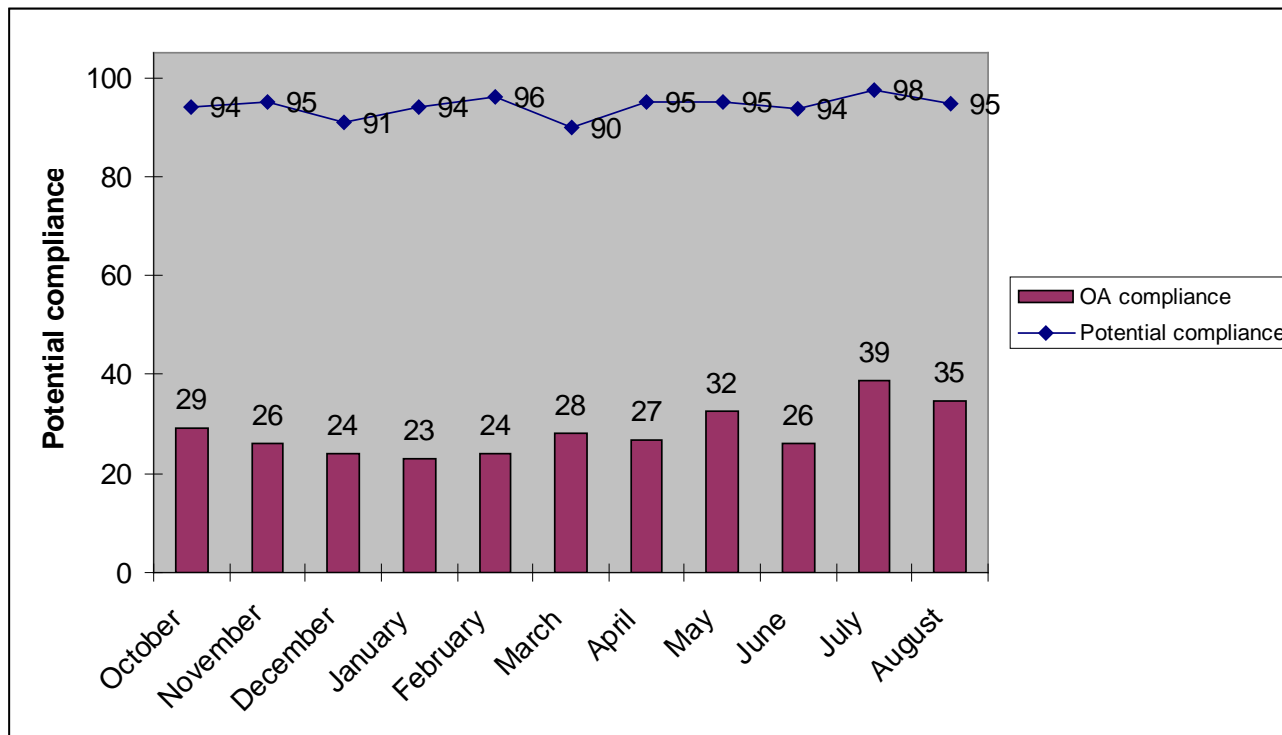
- Improving compliance with the OA mandate
- Improving mechanisms for researchers to meet author-side payments
- Clarifying publishers' OA policy
- Working out how to flip the model from “subscriber pays” to “author pays”



Wellcome Trust: compliance with mandate



- Around 33% of Trust-funded research papers available in PMC/UKPMC within 6 months of publication
 - ♦ but...95% of journals used by Wellcome-funded authors have a “Wellcome-compliant” publishing option. ”



Papers published between October 2007 – August 2008

Improving compliance with mandate



- Problem in part – authors not self-archiving
 - ♦ Mitigated by awareness raising, and articulating consequences of non-compliance...
 - ♦ Following letter to VC's significant increase in author depositions
 - 259 depositions Jan-Mar 08; 841 depositions Jan-Mar 09
- ..in part, publishers not having workflows to support “author pays” model
 - ♦ Elsevier – who have recently introduced an integrated OA workflow – have seen significant increase in uptake of “Sponsored Documents”
- ..but in part we (funders) have not yet demonstrated the benefits of OA, something we are addressing through UKPMC

New services at UKPMC – Grant Reporting

My Impact

Report for Dr SJ Hubbard

Export My Impact as CSV XML

#	Article	Web of Science Citation Count
1	<p>A genetic variation map for chicken with 2.8 million single-nucleotide polymorphisms.</p> <p>Wong GK, Liu B, Wang J, Zhang Y, Yang X, Zhang Z, Meng Q, Zhou J, Li D, Zhang J, Ni P, Li S, Ran L, Li H, Zhang J, Li R, Li S, Zheng H, Lin W, Li G, Wang X, Zhao W, Li J, Ye C, Dai M, Ruan J, Zhou Y, Li Y, He X, Zhang Y, Wang J, Huang X, Tong W, Chen J, Ye J, Chen C, Wei N, Li G, Dong L, Lan F, Sun Y, Zhang Z, Yang Z, Yu Y, Huang Y, He D, Xi Y, Wei D, Qi Q, Li W, Shi J, Wang M, Xie F, Wang J, Zhang X, Wang P, Zhao Y, Li N, Yang N, Dong W, Hu S, Zeng C, Zheng W, Hao B, Hillier LW, Yang SP, Warren WC, Wilson RK, Brandström M, Ellegren H, Crooijmans RP, van der Poel JJ, Bovenhuis H, Groenen MA, Ovcharenko I, Gordon L, Stubbs L, Lucas S, Glavina T, Aerts A, Kaiser P, Rothwell L, Young JR, Rogers S, Walker BA, van Hateren A, Kaufman J, Bumstead N, Lamont SJ, Zhou H, Hocking PM, Morrice D, de Koning DJ, Law A, Bartley N, Burt DW, Hunt H, Cheng HH, Gunnarsson U, Wahlberg P, Andersson L, Kindlund E, Tammi MT, Andersson B, Webber C, Ponting CP, Overton IM, Boardman PE, Tang H, Hubbard SJ, Wilson SA, Yu J, Wang J, Yang H, International Chicken Polymorphism Map Consortium Nature 2004 Dec 9 ; 432(7018): 717-22</p>	131
2	<p>A combination of chemical derivatisation and improved bioinformatic tools optimises protein identification for proteomics.</p> <p>Brancia FL, Butt A, Beynon RJ, Hubbard SJ, Gaskell SJ, Oliver SG Electrophoresis 2001 Feb ; 22(3): 552-9</p>	38
3	<p>Stable isotope labelling in vivo as an aid to protein identification in peptide mass fingerprinting.</p> <p>Pratt JM, Robertson DH, Gaskell SJ, Riba-Garcia I, Hubbard SJ, Sidhu K, Oliver SG, Butler P, Hayes A, Petty J, Beynon RJ Proteomics 2002 Feb ; 2(2): 157-63</p>	38
4	<p>Bioinformatic assessment of mass spectrometric chemical derivatisation techniques for proteome database searching.</p> <p>Sidhu KS, Sangvanich P, Brancia FL, Sullivan AG, Gaskell SJ, Wolkenhau O, Oliver SG, Hubbard SJ Proteomics 2001 Nov ; 1(11): 1368-77</p>	19
5	<p>The Functional Genomics Experiment model (FuGE): an extensible framework for standards in functional genomics.</p> <p>Jones AR, Miller M, Aebersold R, Apweiler R, Ball CA, Brazma A, Degreef J, Hardy N, Hermjakob H, Hubbard SJ, Hussey P, Igra M, Jenkins H, Julian RK, Laursen K, Oliver SG, Paton NW, Sansone SA, Sarkans U, Stoekert CJ, Taylor CF, Whetzel PL, White JA, Spellman P, Pizarro A Nat Biotechnol 2007 Oct ; 25(10): 1127-33</p>	14

My Impact Report

The screenshot displays the ISI Web of Knowledge interface. At the top, it says "ISI Web of Knowledge" and "Take the next step". Below this, there are navigation tabs: "All Databases", "Select a Database", "Web of Science", and "Additional Resources". The "Web of Science" tab is active, and it indicates "now with Conference Proceedings".

The main content area shows the details of a selected article:

- Citing Articles**
- Title: A genetic variation map for chickens with 2.8 million single-nucleotide polymorphisms
- Author(s): Wong GK
- Source: NATURE Volume: 432 Issue: 7018 Pages: 717-722 Publisher: OCE:9/2004
- ESI Citation Map
- Note: The Times Cited count is calculated across all titles of Science editions. More information.
- Results: 131

On the left side, there is a "Refine Results" panel with various filters:

- Search with the results for: [Search]
- Subject Areas: GENETICS & HEREDITY (36), AGRICULTURE, DAIRY & ANIMAL SCIENCE (17), BIOTECHNOLOGY & APPLIED MICROBIOLOGY (18), BIOCHEMISTRY & MOLECULAR BIOLOGY (16), CELL BIOLOGY (15), etc.
- Document Types: ARTICLES (36), REVIEWS (23), PROCEEDINGS PAPERS (18), EDITORIAL MATERIAL (6), LETTERS (1), etc.
- Authors, Source Titles, Publication Years, Conference Titles, Institutions, Languages, Countries/Territories.

On the right side, a list of citing articles is shown:

- Title: Avian TAP genes: detection of nucleotide polymorphisms and comparative analysis across species. Authors: Shen L, Lazar B, Ramak P, et al. Source: GENETICS AND MOLECULAR RESEARCH Volume: 7 Issue: 4 Pages: 1267-1271 Published: 2008 Times Cited: 0
- Title: Endogenous cAMP regulates receptor endocytosis. Authors: Hoggan M, Yoon LA, Watanabe KS, et al. Source: CELLULAR SIGNALING Volume: 21 Issue: 8 Pages: 1308-1316 Published: AUG 2009 Times Cited: 0
- Title: Impact of nutrition on the innate immune response to infection in poultry. Authors: Hoggan M. Conference Information: 57th Annual Meeting of the Fourth Science Association, JUL 20-23 2008 Niagara Falls, CANADA. Source: JOURNAL OF APPLIED POULTRY RESEARCH Volume: 19 Issue: 3 Pages: 111-124 Published: 57th 2009 Times Cited: 0
- Title: Advanced technologies for genomic analysis in farm animals and its application for QTL mapping. Authors: Han X, Cao Y, Feng Q, et al. Conference Information: 3rd International Conference of Quantitative Genetics, AUG 16-24 2007 Zhejiang Univ, Hangzhou, PEOPLES R CHINA. Source: GENETICS Volume: 150 Issue: 2 Pages: 374-380 Published: APR 2009 Times Cited: 0
- Title: Quantification of Adaptive Evolution of Genes Expressed in Avian Brain and the Population Size Effect on the Efficacy of Selection. Authors: Hoggan M, Cao Y, Feng Q, et al. Source: MOLECULAR BIOLOGY AND EVOLUTION Volume: 26 Issue: 5 Pages: 1075-1079 Published: MAY 2009 Times Cited: 0
- Title: Genotype-assisted prediction of a quantitative trait measured in parents and progeny: application to food conversion rate in chickens. Authors: Gontcharov O, Gontcharov O, Roush D, Ross C, et al. Source: GENETICS SELECTION EVOLUTION Volume: 41 Article Number: 3 Published: JAN 5 2009 Times Cited: 0
- Title: Contrasting evolution of diversity at two disease-associated chicken genes. Authors: Dowling T, Lam D, Cornes L, et al. Source: HINNOGENETICS Volume: 61 Issue: 4 Pages: 383-314 Published: APR 2009 Times Cited: 0
- Title: The Standard of Perfection: Thoughts about the Laying Hen Model of Ovarian Cancer. Authors: Robinson J, et al.

New services at UKPMC – Text mining



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Abstract

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Refine by subject

Minor

- Humans
- Breast Neoplasms
- Tumor Markers, Biological
- Two-Hybrid System Techniques
- Gene Expression Regulation, Neoplastic
- Protein Binding
- Genes, BRCA1
- Female
- Phosphoprotein
- Phosphatases

Abstract & Citation Details

Related Citations

Related Biological Entities

The interaction of PP1 with BRCA1 and analysis of their expression in breast tumors.

(MED-17511879)

Winter SL , Bosnoyan-Collins L , Pinnaduwege D , Andrulis IL

Fred A. Litwin Centre for Cancer Genetics, Samuel Lunenfeld Research Institute, Mount Sinai Hospital, Toronto, Ontario, Canada. sherry.winter@moffitt.org

BMC cancer [2007 7 (0) Page:85]

Type: Journal Article, Research Support, Non-U.S. Gov't, Research Support, U.S. Gov't, Non-P.H.S., Comparative Study

DOI: <http://dx.doi.org/10.1186/1471-2407-7-85> (Subscription required)

Abstract

Highlight Biological Entities

Gene Ontology (4) Diseases (5) Proteins (24) Species (10)

BACKGROUND: The breast cancer susceptibility gene, BRCA1, is implicated in multiple cellular processes including DNA repair, the transactivation of genes, and the ubiquitination of proteins; however its precise functions remain to be fully understood. Identification and characterization of BRCA1 protein interactions may help to further elucidate the function and regulation of BRCA1. Additionally, detection of changes in the expression levels of BRCA1 and its interacting proteins in primary human breast tumors may further illuminate their role in the development of breast cancer. METHODS: We performed a yeast two-hybrid study to identify proteins that interact with exon11 of BRCA1 and identified Protein Phosphatase 1beta (PP1beta), an isoform of the serine threonine phosphatase, PP1. GST-pull down and co-immunoprecipitation assays were performed to further characterize this interaction. Additionally, Real-Time PCR was utilized to determine the expression of BRCA1, PP1alpha, beta and gamma in primary human breast tumors and normal breast tissue to identify alterations in the expression of these genes in breast cancer. RESULTS: PP1 and BRCA1 co-immunoprecipitate and the region within BRCA1 as well as the specific PP1 interacting domain mediating this interaction were identified. Following mRNA expression analysis, we identified low levels of BRCA1 and variable levels of PP1alpha and beta in primary sporadic human breast tumors. Furthermore, BRCA1, PP1beta and PP1gamma were significantly higher in normal tissue specimens (BRCA1 p = 0.01, PP1beta: p = 0.03, PP1gamma, p = 1.9 x 10(-6)) compared to sporadic breast tumor samples. Interestingly, we also identified that

Biological entities highlighted in Abstract view

Search can be refined using MeSH

Text mining: related biological entities



Free archive of life sciences journals



interaction brca1 breast cancer

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Filters MeSH subject:genes, brca1 ✕

Abstract

Full Text

PDF

Refine by subject

Minor

Humans

Breast Neoplasms

Tumor Markers,
Biological

Two-Hybrid System
Techniques

Gene Expression
Regulation, Neoplastic

Protein Binding

Genes, BRCA1

Female

Phosphoprotein
Phosphatases

Abstract & Citation Details

Related Citations

Related Biological Entities

Proteins

protein phosphatase 1, catalytic subunit, beta isoform 1 [Homo sapiens] (NCBI protein:46249376)

protein phosphatase 1, catalytic subunit, beta isoform 1 [Homo sapiens] (NCBI protein:4506005)

Protein Interactions

winter-2007-2 (Intact:EBI-1543560)

winter-2007-1 (Intact:EBI-1542892)

winter-2007-3 (Intact:EBI-1543594)

Nucleotide Sequences

Homo sapiens protein phosphatase 1, catalytic subunit, beta isoform (PPP1CB), transcript variant 3, mRNA (NCBI nuccore:46249375)

Homo sapiens protein phosphatase 1, catalytic subunit, beta isoform (PPP1CB), transcript variant 1, mRNA (NCBI nuccore:46249374)

Genes

PPP1CC (NCBI gene:5501)

PPP1CB (NCBI gene:5500)

PPP1CA (NCBI gene:5499)

Biological entities based on mining of full-text articles – not just the abstracts

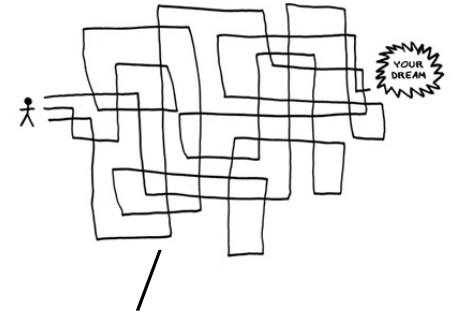
Improving mechanism to meet OA fees

- Funders
 - ♦ Clarify how financial support is provided for researchers to meet author-side payments
- Institutions
 - ♦ Appoint single, senior person to coordinate management of publication fees
 - ♦ Establish dedicated budgets to meet OA costs
 - Institutions can include publications costs within the indirect costs for grant applications (See RIN Briefing Note on [Payment of Publication Fees](#))
- Publishers
 - ♦ Improve workflows – to make it easier to select author-side option
 - ♦ Commit to reviewing subscription costs in light of take-up of the author-pays model



See RIN/UUK [“Paying for OA publication charges”](#)

Clarifying publishers' OA policy



- Number of publishers still have no OA policy
 - ♦ Sherpa estimate that 8% of publishers have no OA policy
- Nuances of policy – bewildering to the researcher
 - ♦ No fee, no embargo – but full & immediate OA (e.g. BMJ research papers)
 - ♦ No fee, full OA, but 6 months embargo (e.g. Rockefeller Press)
 - ♦ Author-side payment – fully Wellcome compliant (e.g. Elsevier, Wiley)
 - ♦ ~~Author side payments – NOT Wellcome compliant~~
 - ♦ Self-archiving – must archive author version (e.g. AAAS)
 - ♦ Self-archiving – must archive publisher version (e.g. NEJM)
 - ♦ Self archiving – not WT compliant (embargo too long) (e.g. ASN)

Flipping the model

- Houghton and RIN studies have pointed to significant savings and benefits by moving to OA
- All players – publishers, librarians, funders and researchers – need to work together to:
 - ♦ Model transition scenarios
 - SCOAP3 project
 - OA licensing agreement (Max Planck & Springer)
 - ♦ Look at all elements in the cost chain – can they be reduced
 - e.g. Move to e-only (saving print and publication costs)
 - e.g. Consider submission fees – so that the true cost of publication can be calculated
- Trust hoping to work with RIN to help model the transition to open access



Take home messages

- OA policies and infrastructure (e.g. UKPMC) in place
 - ♦ Looking to offer UKPMC service to other European research funders
- Need to build on these developments and take action on:
 - ♦ Improving compliance
 - ♦ Implementing better mechanisms to meet author-side payments
 - ♦ Clarifying (and simplifying) publisher policy
 - ♦ Looking at how underlying publishing model can be flipped – from consumer to producer - for the benefit if all
- The full potential of OA can then begin to be realised

Further information

Web: <http://www.wellcome.ac.uk/openaccess>

Blog: <http://ukpmc.blogspot.com>

Email: openaccess@wellcome.ac.uk