Professional Symposium:

Financial Perspectives on Scientific Publishing

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The Information Research Description of Physics in the Information Statement in Research Description of Physics (Statement of Physics) (S

Sam Armato, Ph.D.

Chair, AAPM Journals Business Management Committee "AAPM Journal Finances: Facts, Figures, and Fundamentals"

Dan Bourland, Ph.D. Member, AAPM Journals Business Management Committee "A Tale of Two Journals: Open-Access and Subscription-Based Publications"

Michelle Svatos, Ph.D. Member, AAPM Journals Business Management Committee "A Look Ahead: Stewarding the Financial Future of AAPM Journals"

Scientific Publishing

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Scientific Publishing

A major endeavor of the AAPM

Scientific Publishing

- A major endeavor of the AAPM
- Requires substantial resources

Scientific Publishing

- A major endeavor of the AAPM
- Requires substantial resources
 - but has potential to provide reputation and revenue

A Tale of Two Journals

Medical Physics

• "The international journal of medical physics research and practice"

A Tale of Two Journals

Medical Physics

• "The international journal of medical physics research and practice"

• since 1974, publishes research related to the application of physics and mathematics to the solution of problems in medicine and human biology, with an emphasis on theoretical and experimental approaches

AIP Publishing

A Tale of Two Journals

• Journal of Applied Clinical Medical Physics (JACMP)

• an applied journal that publishes papers designed to help clinical medical physicists perform their responsibilities more effectively and efficiently for the greater benefit of patients

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• Journal of Applied Clinical Medical Physics (JACMP)

• an applied journal that publishes papers designed to help clinical medical physicists perform their responsibilities more effectively and efficiently for the greater benefit of patients

• obtained in 2012 when AAPM incorporated the American College of Medical Physics (ACMP)

Multimed

A Tale of Two Journals

- · Reflect two different missions
- Reach two different audiences (yet often overlapping)
- Engage two different publication approaches
- · Operate under two different financial models

But With One Mind

• Yet both are critical to the AAPM mission and highly valued by our society

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Both journals are needed to serve this mission

But With One Mind

• Yet both are critical to the AAPM mission and highly valued by our society

- Both journals are needed to serve this mission
- Med Phys: cutting edge research and translational science

• JACMP: state-of-the-art clinical tools and implementation strategies

But With One Mind

• Concepts, algorithms, devices first introduced in Med Phys will later become the subject of JACMP articles

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• Concepts, algorithms, devices first introduced in Med Phys will later become the subject of JACMP articles

• Clinical issues, artifacts, and shortcomings first explored in JACMP will later become the subject of Med Phys articles

But With One Mind



How to Implement this Unity of Purpose?

- Journal governance
- Journal platform

Journal Governance

Journal Governance

• Journals Business Management Committee (JsBMC)

Journal Governance

Journals Business Management Committee (JsBMC)

• created in 2015 to merge the two individual journal business management committees to capture spirit of unity in purpose to fulfill AAPM mission

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 - · reports to Administrative Council

Journal Governance

Journals Business Management Committee (JsBMC)

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· reports to Administrative Council

Individual editorial boards oversee the scientific and content aspects on their respective journals

JsBMC

- · Oversees the financial aspects of the two journals
 - · strategically evolve their financial stability
 - prepare annual budgets
 - · ensure the highest level of quality

JsBMC

JsBMC

JsBMC

Chair

Chair

• 3 at-large members

Chair

- AAPM Treasurer, ex officio Med Phys Editor-in-Chief, ex officio JACMP Editor-in-Chief, ex officio

JsBMC

- Chair
- 3 at-large members
- AAPM Treasurer, ex officio
- Med Phys Editor-in-Chief, ex officio
- JACMP Editor-in-Chief, ex officio
- Med Phys Editors, non-voting ex officio
- JACMP Associate Editors-in-Chief, non-voting ex officio

JsBMC

- Chair
- 3 at-large members
- AAPM Treasurer, ex officio
- Med Phys Editor-in-Chief, ex officio
- JACMP Editor-in-Chief, ex officio
- Med Phys Editors, non-voting *ex officio*
- JACMP Associate Editors, non-voting ex officio
- AAPM Executive Director, non-voting
- AAPM Deputy Executive Director, non-voting
- AAPM Controller, non-voting

JsBMC

- · Chair is an ex officio member of
 - Medical Physics editorial board
 - · JACMP editorial board
 - Finance Committee
 - Electronic Media Coordinating Committee

Journal Platform

AHUPP

Ad Hoc Committee on Unifying Publication Platforms

convened in 2015 to establish, in practice, the commonality of mission

AHUPP

Ad Hoc Committee on Unifying Publication Platforms

• convened in 2015 to establish, in practice, the commonality of mission

- recognized that the AAPM's journals would be collectively strengthened through
 - common branding
 - common review platform
 - common content-distribution platform

AHUPP

Common review platform allows for

AHUPP

- Common review platform allows for
 - efficient transfer of manuscripts between journals so promising articles remain with the AAPM
 - · uniform author and reader experience
 - common AAPM branding
 - economic efficiency

Request for Proposals

Work of AHUPP culminated in RFP

The AAPM wishes to evaluate its alternatives to ensure that the Association has the most appropriate publishing partner for growing Medical Physics and JACMP, and responding to the scholarly publishing industry's increasingly complex and challenging marketplace.

Request for Proposals

· Work of AHUPP culminated in RFP

The successful publishing proposal will:

1. Advance AAPM's overall mission and increase the periodicals' reach, revenues, and financial return.

2. Recognize the AAPM's continued ownership of the periodicals as well as sole control over editorial content.

Request for Proposals

• Work of AHUPP culminated in RFP

The successful publishing proposal will:

3. Increase the worldwide impact and visibility of the periodicals by expanding circulation, enabling easy access for readers, and expanding their authorship base.

4. Grant the AAPM reasonable approval of publishing decisions.

Request for Proposals

· Work of AHUPP culminated in RFP

The successful publishing proposal will:

5. Grant the AAPM reasonable opportunities to update content and format of the journals in response to changing disciplinary or Association needs.

6. Assure AAPM of sufficient quality measures.

New Publishing Approach

• Wiley will provide publication services for both journals beginning 2017

New Publishing Approach

• Wiley will provide publication services for both journals beginning 2017

- Transition from
 - · fee-for-service model for each journal individually
 - to
 - · royalty model for the journals combined

New Publishing Approach

• Wiley will provide publication services for both journals beginning 2017

- Transition from
 - fee-for-service model for each journal individually
 - to
 - · royalty model for the journals combined
- New territory for the AAPM

Publication Models: Open-Access and Subscription-Based Publications

Publishing Models: An Introduction

A high quality, peer-reviewed journal, by design, needs to satisfy purpose and criteria set by many stakeholders

- Authors who submit and publish their manuscripts
- · Individual Readers who access journal content
- · Subscribing Individuals who access journal content
- Subscribing Institutions and Entities that provide journal content to members
- Editors, the Editorial Board, Reviewers
- Scientific Community, Society, Administrators, others

It must do this within a solvent Business Model

Publishing Models: An Introduction

It must do this within a solvent Business Model

- Costs of publishing are non-zero (> 0) and legitimate
 Costs may be borne by a collection of sources author, reader, benefactor, advertising, professional society...
- · There must be viable production & distribution process
- There must be a cost-recovery structure <u>revenue</u> The Business Model must satisfy the interests of stakeholders without compromising the needs of the scientific community

Publishing Models: An Introduction

Publication Model matched with Business Model Publication Model ⇔ Business Model

Publication Model may determine both:

- 1. source of revenue (eg, Subscription, APCs)
- 2. type of copyright for published article (transferred, retained)

AAPM's Medical Physics and JACMP Publication Models

- 1. Traditional Publication with transferred copyright (MedPhys)
- 2. Open Access with author-retained copyright (JACMP)

Publishing Models: An Introduction

Traditional Publication

• No charge to authors; Copyright held by publisher; Charge to users (subscription, per use, etc.)

Open Access Publication

Charge to authors; Copyright held by authors; No charge to users (there are variations)

AAPM Journals have forms of both models

There are always exceptions and hybrids

Open Access Models

AAPM: A Member Society of American Institute of Physics (AIP)



Budapest Open Access: 2002

Home	Budapest Open Access Initiative
BOA110 Recommendations	In response to the growing demand to make research free and available to anyone with a computer and an internet connection, a diverse coalition has issued <u>con qualatizes</u> that could usher in huge advances in the sciences, medicine and health.
Translations	The recommendations were developed by leaders of the Open Access movement, which has worked for the past
Beckground	decade to provide the public with unrestricted, free access to scholarly research-much of which is publicly funded.
Read the original BOAL declaration	Making the research publicly available to everyone—free of charge and without most copyright and licensing restrictions—will accelerate scientific research efforts and allow authors to reach a larger number of readers.
Tronslations	The recommendations are the result of a meeting organized by the Open Society Foundations to mark the testing anniversary of Budapest Open Access Initiative, which first defined Open Access. The recommendations include the
EAQ	development of Open Access policies in institutions of higher education and in funding agencies, the open licensing of scholarly works, the development of infrastructure such as Open Access repositories and creating standards of
View signatures	professional conduct for Open Access publishing. The recommendations also establish a new goal of achieving Open Access as the default method for distributing new peer-reviewed research in every field and in every country within
Sign the the original BOAL	ten years' time.
	Translations of the recommendations have already been made in several languages, with more to follow.
BOAI Forum Resources	For more on the recommendations, please see the press release as well as a <u>blog post</u> by Peter Suber which provides additional background on the Open Access mevement.
What you can do to help	
Contact us	http://www.budapestopenaccessinitiative.org/

Open Access Distinctives

- <u>Accelerated Discovery</u>: Research disseminated quickly and readily available worldwide for others to incorporate and build upon.
- <u>Public Enrichment</u>: Much scientific & medical research is paid for with public funds. OA allows public to see results of their investment.
- Improved Education: Teachers and students have access to the latest research findings throughout the world.
- <u>Unlimited Access</u>: Anyone can download, reuse, reprint, modify, distribute and/or copy content with citation of original authors and source. No permission is required from authors or publishers.
- Author Owns Copyright: Permission for use granted "up-front"



Publishing Models

APCs

http://sites.nationalacademies.org/cs/groups/pgasite/documents/webpage/pga_084920.pdf

Gold OA - JACMP

- author payment model APCs includes fully OA journals as well as author-pays articles in hybrid journals Subsidized OA
- author no-payment model No APCs
 includes fully OA journals as well as author-pays articles in hybrid journals
- · Subscription journals that include optional author-pays OA articles
- known as "sponsored articles", "open choice". "author choice" etc

 Subscription journals Green OA - MedPhys posting of pre-publication or author accepted manuscripts or published journal articles to file sharing sites 					
No Subscription Subscription					
APCs	Gold	Hybrid			

Subsidized Subscription

Medical Physics: Traditional Model

- Traditional Publication most common route for MedPhys
- · No charge to authors (exceptions: # pages > limits, color)
- d Gold Open Access certain articles Open Access
- · Open Access can be requested by authors APCs
- Green Open Access manuscript archiving allowed

Copyright Transfer Agreement (Non-OA) Medical Physics requests that a copyright be assigned to the AAPM. It is a tradition of long standing that submission to MedPhys implies that the work has been neither copyrighted, classified, published, nor is being considered for publication elsewhere.



Medical Physics: Traditional Model

MEDICAL PHYSICS TRANSFER OF COPYRIGHT AGREEMENT

Copyright to the above-listed supplicited and original article and the second s

(thor(s), and in the case of a Work Made For Hire, as defined in the U.S. Copyright Act, 17 U.S.C. § 101, the employer na ave the following rights (the "Author Rights"):

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(2) All preprinter rights state that experiments of a APA kay gave premises to the particle to previous the state of the preprinter rights after after rights after right right right right right right right right r

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Medical Physics: Hybrid OA Model

Medical Physics is a Hybrid Open Access journal

- Certain articles are Open Access • Editor's Choice, by document class, eg, Task Groups, 20/20 ...
- · Other articles are Members-only, subscription-only or PPV accessible - a mixed access
- Author can select Open Access

١	lo Subscription	Subscription	
APCs	Gold	Hybrid ♠	
No APCs	Subsidized	Subscription	

J Applied Clinical Medical Physics: **OA Model**

- JACMP has been Gold Open Access from the beginning
- · Originally: No Article Processing Charges (APCs)
- As Of November, 2015: Article Processing Charge = \$500

Open Access Policy

Optimizes Policy This journal provides open access to all of it content on the principle that making research freely available to the public supports a greater global exchange of knowledge Such access is associated with increased readership and increased citation of an autors work. For more information, see the Public Knowledge Reader, which has designed this system to improve the scholarly and public quality of research, and which freely distributes the journal system as well as other software to support the open access publishing of scholarly resources



J Applied Clinical Medical Physics: OA Model

JACMP Copyright Notice

- Authors retain copyright and grant the journal right of first publication with the work simultaneously licensed under a <u>Greative Commons Attribution Licensed</u> allows others to share the work with an acknowledgement of the work's that authorship and initial publication in this journal.
- Authors are able to enter into separate, additional contractual arrangements for the non-exclusive distribution of the journal's published version of the work (e.g., post it to an institutional repository or publish it in a book), with an acknowledgement of its initial publication in this journal.
- Authors are permitted and encouraged to post their work online (e.g., in institutional repositories or on their website) prior to and during the submission process, as it can lead to productive exchanges, as well as earlier and greater citation of published work (See The Effect of Open Access).

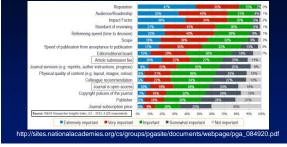
Medical Physics: Costs and Revenue

- Subscription included with AAPM membership
- Key Publication Costs
 - Article layout, copy-editing, paper, print and production, shipping, commissions on advertising, OA compliance, other AIPP services, editor and editorial office, and AAPM staff support
- Key Revenue Sources
 - Subscriptions libraries, consortia, other non-members
 - Advertising printed ads, online banner ads, PDF cover pages
 - Production and Author Requests
 - excess page charges
 - printed color figure fees, reprint fees
 author-select OA APCs

JACMP: Costs and Revenue

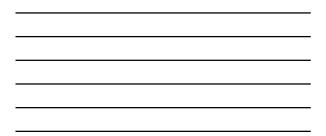
- Free to AAPM members and others
- Key Publication Costs
 - Article layout, copy-editing and production, OA compliance, editor and editorial office expenses, manuscript platform, article hosting, and AAPM staff support
- Key Revenue Sources
 - · Subscriptions libraries, consortia, other non-members
 - Advertising online banner ads
 - Newly implemented Article Processing Charges (APCs)

Author Criteria For Journal Selection









Clearinghouse for Open Research in the US AAPM has joined as a CHORUS member

CHORUS leverages existing infrastructure to enable sustainable, cost effective, and transparent public access to content reporting on funded research. By integrating services and open APIs, CHORUS optimizes funder identification, content discovery and long-term accessibility, compliance monitoring, and dashboard reporting.



Medical Physics 2016 budget (105 line items)

Dollars and Cents

\$2,477,000

- Medical Physics 2016 budget (105 line items)
 - TOTAL Expenses: \$1,593,000
 - TOTAL Revenue:
 - NET Income (Loss): \$ 884,000

- Medical Physics 2016 budget (105 line items)
 - TOTAL Expenses: \$1,593,000
 - TOTAL Revenue: \$2,477,000
 - NET Income (Loss): \$ 884,000
- Medical Physics 2016 production
 - 6500 text pages + 360 ad pages

• JACMP 2016 budget (25 line items)

Dollars and Cents

\$ 133,700

- JACMP 2016 budget (25 line items)
 - TOTAL Expenses: \$ 199,700
 - TOTAL Revenue:
 - NET Income (Loss): \$ (66,700)

- JACMP 2016 budget (25 line items)
 - TOTAL Expenses: \$ 133,000
 - TOTAL Revenue: \$ 199,700
 - NET Income (Loss): \$ (66,700)
- JACMP 2016 production
 - 240 articles, 2400 pages

- Medical Physics expenses
 - · copyediting and production
 - printing and paper
 - shipping
 - commissions on advertising sales
 - compliance with NIH open-access policies
 - editor and editorial office expenses
 - AAPM staff support charges

Dollars and Cents

- JACMP expenses
 - · article layout and proofreading
 - copyediting
 - metadata markup
 - manuscript platform
 - article hosting
 - · editor and editorial office expenses

- Medical Physics revenue
 - advertising
 - print ads, online banner ads, PDF wrapper non-member subscriptions
 - libraries, consortia

 - excess page charges printed color figure fees

 - reprint fees
 - author-select open access article processing charge

- Medical Physics revenue
 - NOT membership dues

Dollars and Cents

- JACMP revenue
 - online banner ads
 - article processing charge

- JACMP revenue
 - online banner ads
 - article processing charge
 - future: expanded advertising strategies

Initiated in 2000, JACMP was a leader in OA paradigm

JACMP Revenue

- Initiated in 2000, JACMP was a leader in OA paradigm
- · Free to submit, free to publish, free to access

JACMP Revenue

- Initiated in 2000, JACMP was a leader in OA paradigm
- Free to submit, free to publish, free to access
- Novel approach

- Initiated in 2000, JACMP was a leader in OA paradigm
- Free to submit, free to publish, free to access
- Novel approach
- But not sustainable with increasing numbers
 - 19 published articles in 2000
 - 184 published articles in 2014

JACMP Revenue

- Open access is not equivalent to "no cost"
- Costs of publication must be covered somehow

JACMP Revenue

- Open access is not equivalent to "no cost"
- Costs of publication must be covered somehow
- · Open access means openly accessible to all
 - no subscriptions or fees for the consumer
- Costs are shifted to the producer (authors, funders)





• Article processing charge (APC)

- Article processing charge (APC)
 - \$500 for accepted manuscripts submitted after
 11/1/15

JACMP Revenue

• AAPM Board motion approved (December 2016)

"Recommend to the Board that JBMC be charged with setting a publication fee that will enable JACMP to at least break even by the end of 2018 while maintaining a gold open access model."

JACMP Revenue

• JBMC-approved waiver (2/1/16)

"JACMP will grant a full or a 50% waiver of the APC if the corresponding author of an accepted manuscript resides (at the time of submission) in a low- or middleincome country, respectively, as defined by the World Health Organization's HINARI Index."

• JBMC-approved subsidy for junior authors (7/8/16)

"If the first author of an accepted manuscript is an AAPM Student, Junior, or Resident Member as of the date of submission, and if the manuscript is the member's first JACMP acceptance as first author, the AAPM will provide \$250 toward the APC regardless of the co-authors or institutions involved and regardless of the actual payor of the APC for that article."



The Future for AAPM's Journals

- · Publishing remains a major activity of the AAPM
 - ultimate goals: advance the journals' stature in the literature, fulfill AAPM's mission
- JBMC is the steward of the journals' collective financial welfare
 - while the editors and editorial boards cultivate journal scientific quality and integrity

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The Future for AAPM's Journals

• JBMC will work with Wiley to maximize the benefits of the new publication paradigm for journal success and AAPM mission fulfillment

- refine publication models (fees, features, products)
- monitor and strategically plan in the evolving publishing realm
- growth of OA, anticipate paperless publishing

Medical Physics American Association of Physics in Medicine Journal of Applied Clinical Medical Physics



Questions

• JACMP is online only, which avoids printing/shipping costs; can Medical Physics follow this model?

• Is there a way to not get a paper copy of Medical Physics?

- Why can't a journal be run by volunteers "for free"?
- Why is one journal "subsidized" and not the other? Why can't I choose which journal I want to get for free?

• What are the benefits of OA? Do we need to keep JACMP gold OA? Could we switch to a hybrid model?



