

Scientific, technical, and medical podcasting in Korea

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Abstract

Korean produced scientific, technical and medical (STM) podcasts represent an opportunity for Korean STM publications to further promote themselves as an important center for scientific research. STM Publishing makes results and data available to the greater scientific community as well as the rigors of metadata research. Publishing costs should be considered part of research costs since research results are only of value if published in reputable peer-reviewed journals. Korean journals indexed in the Korean Citation Index (KCI) continue to evolve in quality and as important communities for scientists. Universities, tertiary hospitals, and research institutes throughout Europe and America feature podcasts as an integral part of Web 2.0 and the evolution of e-publishing. However, unlike their Western counterparts, Korean (as well as Chinese and Japanese) STM publications and related organizations have not established hosted STM podcast programs to help propagate and create discussion on important science results. The opportunity of Korean produced STM podcasts to highlight important research and discovery is a cost efficient opportunity that Korean journals, universities, tertiary hospitals, research institutes and industry/academic collaborations should consider. This paper outlines roles, reasons and rationale for KCI publications to be featured in a Korean hosted STM podcast.

Keywords

Podcast; Korean Citation Index; Journals; e-publishing; Publications

Introduction

“Why is it so?”, hosted by Julius Sumner Miller in 1959, was one of the first TV programs to feature science as a means to promote public interest and involvement in science education. Mainstream media has continued to address the human interest and fascination with science. Early science programs, such as those by Miller, have now evolved into TV programs such as NOVA and The Nature of Things. In addition, Miller also pioneered the celebrity status of scientists through unbounded enthusiasm for quality publishing, academic honesty, research integrity and intellectual rigor. The promotion of evidence-based discovery and the excitement

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that science offers will always have a significant public audience. The e-publishing medium is a new form of media that offers additional opportunities for a greater involvement by science and media to present new research to the public.

Part of the evolution in e-publishing has been the additional opportunities that Web 2.0 offers where “Scientific discussions are also increasingly being held in various Web 2.0 environments such as blogs, forums, and Twitter” [1]. Science does not exist in a vacuum and it is important to scrutinize discovery in discussions that show validity and benefit to humanity. However, the intricacies of science that require detailed scrutiny are sometimes lost in complex issues that can quickly become tainted by emotion instead of reason. The role of science journalism in the propagation of discovery is to take the complex and make it accessible to the widest audience possible. Podcasts represent an important part of Web 2.0 for Western academia to take new discoveries and provide an initial introduction to the public by the scientists themselves. In this training material, I would like to introduce how to adopt podcast for scholarly journal editors in Korea as well as Asia.

Podcasts

The word podcast entered use in 2004 and has remained closely associated with the format offered by Apple iTunes. However, all operating systems can access media content offered by podcasts. The content on-demand ‘push-pull’ function of podcasts and RSS feeds allows users to access information and media content on smartphones and other devices when it is most convenient for them to listen, such as on subways, driving, or doing daily activities. Scientific, technical and medical (STM) podcasts are now a standard program offering for North American and European universities, tertiary hospitals, research institutions and academic publications. Renowned academic and science institutions all have a podcast feature, such as Nature (Nature Podcast) (Fig. 1), Harvard Medical School (Podcast Library), Johns Hopkins Hospital (Johns Hopkins Medicine Podcasts), Science (Science Magazine Podcast), and The Lancet (Audio Archive), that help in “facilitating dialogue between lay listeners and those with a range of expertise, including both formal and informal knowledge” [2].

Korea’s research output and quality have rapidly evolved.

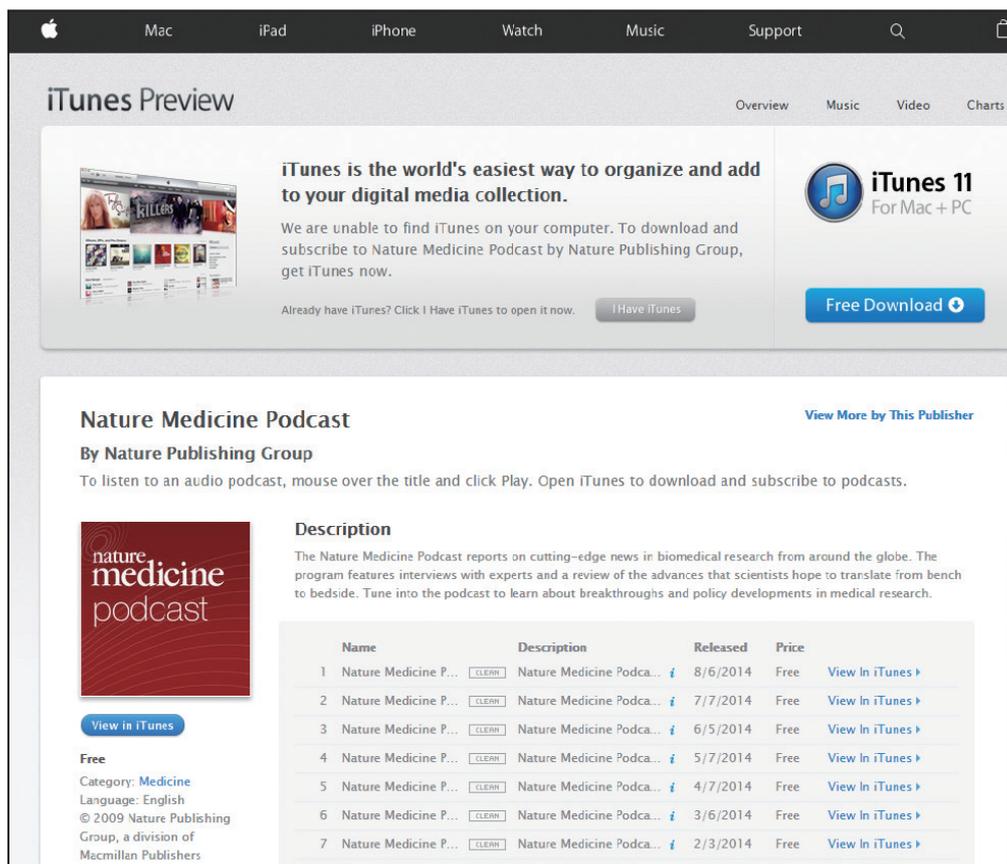


Fig. 1. Screenshot of current Nature Medicine Podcast as featured on iTunes [cited 2016 Jan 6]. Available from: <http://www.nature.com/nm/podcast/index.html>

However, the paper by Park and Leydesdorff, “Korean journals in the Science Citation Index: What do they reveal about the intellectual structure of S&T in Korea?” argues that Korean citation performances are not as competitive as their publication performance [3]. Korean STM journals indexed in the KCI have an immense potential to be internationally competitive and are quickly attracting significant, relevant, and important papers from researchers both in and out of Asia. Park and Leydesdorff offer direction and advice that, “Given the international aspirations of the Korean journals, they may be well-advised to integrate more in the international publication structure, for example, via mergers or acquisitions” [3].

Podcasts represent an excellent opportunity to improve the international publication structure of Korean STM journals via a merger and synthesis of the best of Korean STM research in KCI listed publications. Korean publications and research are internationally competitive on every metric; podcasts represent an excellent low cost resource to feature the best and brightest publications of Korea, as well as Asia, to a larger international community. There are unique podcasting opportunities for Korea that have not yet been done in China or Japan. Table 1 shows that top-ranked Western medical journals all utilize and STM podcasts to help promote their publications; however, no journals found in the top 15 Asian medical journal publications from Japan, India, Korea, and China have a hosted podcast.

Nomination of Papers by Korean STM Editors

Nominations of outstanding STM papers listed in the KCI for

a podcast interview offer the opportunity for Korean STM journal editors to facilitate, highlight, and promote quality research. The opportunity for Korean STM editors to select papers from publications suitable for a podcast would be a special opportunity for editors to personally increase the relevance of their journals. This is an excellent opportunity to promote collaboration amongst related journals in fields such as engineering, the natural sciences or medical research.

Grouping related journals allows a podcast to select notable publications to produce quality content for a regularly schedule show. The Nature Publishing Group successfully brings together the best publications from its various medical publications to create Nature Podcast, one of the top-ranked STM podcasts in the world. Similarly, KoreaMed Synapse offers an indexed pool of various publications on its website. It has 137 publications as of January 2016 with varying publishing schedules that would easily allow for 10 articles a month to be selected for an hour-long Korean science/medical podcast that features the best KoreaMed Synapse indexed papers of the month.

The opportunity for the author of a nominated publication would be the initial chance to make a presentation of their findings and research to the larger global scientific community. Presentations by authors are a great benefit to everyone involved in e-publishing in Korea. Podcasts are an initial chance to promote discussion among colleagues and laymen that will hopefully facilitate opportunities for greater involvement in international scientific communities and conferences.

Table 1. SCImago Journal Rank (SJR) top ranking (2014) of international medical journals from all regions and countries and hosted podcasts

SJR rank	Journal title	Publisher	Country	Hosted podcast
1	Ca-A Cancer Journal for Clinicians	Wiley-Blackwell	United States	American Cancer Society
2	Annual Review of Immunology	Annual Reviews	United States	Annual Reviews Conversations
3	Nature Reviews Genetics	Nature Publishing Group	United Kingdom	Nature Reviews Genetics
4	Nature Reviews Immunology	Nature Publishing Group	United Kingdom	Nature Podcasts
5	Nature Reviews Cancer	Nature Publishing Group	United Kingdom	Nature Podcasts
6	Physiological Reviews	American Physiological Society	United States	American Physiological Society
7	Immunity	Cell Press	United States	Cell Press Podcast
8	Genome Research	Cold Spring Harbor Laboratory Press	United States	Podcast - Genome Research
9	Cancer Cell	Cell Press	United States	Podcast: Cell Press
10	New England Journal of Medicine	Massachusetts Medical Society	United States	NEJM Podcasts
11	Annual Review of Pathology: Mechanisms of Disease	Annual Reviews Inc.	United States	Annual Reviews Conversations
12	The Lancet Oncology	Lancet Publishing Group	United Kingdom	Audio from The Lancet Oncology
13	The Lancet	Elsevier Limited	United Kingdom	The Lancet Audio
14	Nature Medicine	Nature Publishing Group	United Kingdom	Nature Medicine Podcast
15	The Lancet Infectious Diseases	Lancet Publishing Group	United Kingdom	The Lancet Infectious Diseases Audio

Podcast Platform Host for Apple iTunes and Android

Podcasts create and provide current content for SNS services such as Facebook and Twitter that can help promote the recognition of research done in Korea. Podcasts only require a quality microphone, a routine understanding of software such as Audacity and an Internet host from an affiliated website such as the Korean Federation of Science and Technology Societies, KoreaMed Synapse, or the National Research Foundation of Korea to produce. The Apple iTunes platform then provides a free platform to push the hosted information provided by a Korean SMT publisher to an international audience. iTunes can be accessed by all Android and desktop operating systems and is not limited to Apple devices. iTunes is a free international gateway that offers the most professional experience to anyone interested in science publications and podcasts.

Graduate Students from Korean Universities

Western STM podcasts often utilize graduate students. The publications of KCI represent an excellent opportunity for graduate students from Korean universities to add an additional student/mentor process that helps young researchers further understand complex research and introduce participants to a wider audience. The actual work required by a student to conduct an interview is not an additional burden as it reinforces current introductions to STM focused writing courses on the importance of clarity in the writing format used by STM publications.

The responsibility of the interviewer is to fill in information gaps when required and facilitate an interview that allows the manuscript author to present their publication to a wider audience. Students are quite eager to participate in these types of events as the learning experience is immensely beneficial to their academic careers. The opportunity for students to participate as interviewers in a podcast is the most practical application and instruction of presentation skills that can be offered. Students receive an initial introduction to the scientific community and facilitate the process of science education in a social structure. Learning a means to conceptualize medical discovery to the widest audience possible is an important skill that will benefit students throughout a future research career.

Opportunities for podcast content creation and promotion are not just limited to Korea. Korean universities often face a student exchange imbalance. Due to certain language obstacles, more students from Korea study overseas at sister schools than students from sister schools who study in Korea. The opportunity for science collaboration through the hands-on experience of student exchanges or through Skype is an excel-

lent opportunity to build long-lasting international collaborations between young student researchers. The opportunity to interview and interact other Asian researchers from other Asian publications in China or Japan vis-à-vis Skype has no extra cost requirements.

Audience

Podcasting is focused on a narrowcast as opposed to a broadcast audience; a specialized spectrum of the public subscribes to this type of podcast media. This narrowcast focus is a distinct advantage of podcasting as it promotes itself to an easily identifiable target for industry and academia. Sponsorship opportunities for industry and academia transcend marketing into valuable corporate social responsibilities opportunities. The multitude of pre-existing podcasts in Europe and North America are testimony to the value of this type of podcast media and content to sponsorship/funding opportunities.

Research (invention) requires technology transfer (innovation) in that “Inventions are generated by scientists in laboratories. Innovation is an invention that is accepted, adopted, and fully implemented by markets and society” [4]. Podcasts can help create a greater visibility for the economic value of research in Korea; consequently, visibility can lead to increased opportunities for funding and industry-academic cooperation. New opportunities exist to communicate research as part of the ongoing evolution of technology advancement in Korea.

Korean Government Initiatives and Policy

Information and skilled human resources are required by domestic and international research organizations. STM podcasts present unique opportunities for both young and veteran researchers to address the widest audience possible in both academia and industry. The dissemination of valuable journal publications and facilitation of professional education opportunities is a key reason for the 2009 implementation of the *Promotion of Industrial Education and Industry-Academic Cooperation Act* [5]. The Korean government has a significant interest to promote quality education in an economy that depends heavily on skilled human resources for growth.

Numerous other Korean government initiatives exist that offer additional opportunities to support increased industry and academic collaboration. The government is currently undertaking important initiatives in the biotech industry, such as the *Special Act on Fostering and Support of Pharmaceutical Industry* [6]. Forty-three companies have now been designated to receive special government support as innovative pharmaceutical companies.

Government policies to help support new ideas such as podcasts are already in place such as the *Enforcement Decree for the Special Act on Support of Science and Engineering Manpower for Strengthening National Science and Technology Competitiveness* [7]:

Article 9 (Program Support for Strengthening the Connection of Industry-University-Research Institutes)

(2) 4. Matters concerning the promotion of interchange and cooperation with science and engineering universities, such as the cooperative use of research and development facilities/devices and interchanges of research and development information, etc.

Article 26 (Support for Science Technology Related Broadcasting Programs)

(2) The Minister of Education, Science, and Technology may execute the science and technology specialized broadcasting under Article 23, Paragraph (2) of the Act. In this case, the Broadcasting and Communications Commission may support any part of the expenses for finding and producing science and technology broadcasting programs with the Broadcasting Development Fund under Article 36 of the Broadcasting Act. < Amended on May. 25, 2007, Feb. 29, 2008, Dec. 31, 2008 >

Limitations and Suggestions for Further Research

This material represents a preliminary introduction of podcasting ideas and opportunities to Korea. Publishing is a quickly evolving industry and the introduction of new mediums is ongoing. A larger study should quantify related discussions on SNS services to measure geographical or regional interest and conduct surveys that identify the expertise and desires of podcast listeners.

Conclusion

Korea is a preferred and an economically competitive center for full-scale biotech Research and Development activities. Per capita, “South Korea has the highest ratio of Research and Development researchers per million people” [8]. The establishment of the Institut Pasteur Korea, Max Planck Gesellschaft Korea/POSTECH Research Institute, and Fraunhofer Representative Offices indicate international interest in further collaboration with expert Korean researchers at university and government funded research institutes. Podcasts are an innovative and unique opportunity for Korea to highlight in-

vention and quality resources that the Korean education system produces and provides to the global community.

Opportunities, content, and material already exist for a quality STM podcast based on the STM publications indexed in the KCI; however, further initiative and innovation by Korean academia is required to promote invention and obtain better international publishing results for researchers and journals. The greatest relevance of a Korean produced podcasts exists outside of Korea as Asia deserves more international recognition for the contributions it makes towards science. America and Europe have established science podcasts, yet there are no similar science podcasts programs offered anywhere in Asia; Korea should be the leader to change this.

Conflict of Interest

The author is a co-founder of AsiaMed (<https://twitter.com/asiamedpodcast>), a sample/pilot podcast created as a demonstration that was sponsored by ResearchPaper Korea. No other potential conflict of interest relevant to this article is reported.

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