

# The Exercise Oncology Twitter Conference: Disseminating Research in the Age of Social Media

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## ABSTRACT

**Background:** Scientists are using social media to amplify their scientific impact. As such, researchers are looking for novel ways to engage this medium to promote scientific findings and communicate research to a broader audience. Here, we examine the use of a Twitter conference as a means to effectively communicate advances in the field of exercise oncology.

**Methods:** The Exercise Oncology Twitter Conference (ExOncTC) occurred in October 2018. Each presentation consisted of 6 tweets over 15 min. Attendees were able to interact during a presentation via the conference hashtag (#ExOncTC). Registration data were used to characterize presenters and participants while Twitter Analytics/Union Metrics were used to aggregate data to determine engagement and reach.

**Results:** The ExOncTC featured 68 presenters from 13 countries and 48 institutions. Presenters varied in academic background (ranging from undergraduate students [1.5%] to terminal degree holders [46%]) and profession (including researchers [42.5%] and physicians [6%]). Participants, including researchers, physicians, students, patients, and organizations could register via the Web site (n = 231), follow the @ExOncTC Twitter handle (n = 805), and/or search the #ExOncTC hashtag. During the conference, #ExOncTC was tweeted 1,501 times by 483 unique users for 4,943 total engagements (number of times a user interacts with a tweet). Collectively, these tweets reached 453,900 distinct users with potential impressions equaling 1.8 million (number of views possible).

**Conclusion:** Reach of the ExOncTC demonstrates the potential effectiveness of using a Twitter conference as a platform to communicate the field of exercise oncology, suggesting Twitter conferencing should be explored as a tool for scientific dissemination to the broader field of clinical exercise physiology. *Journal of Clinical Exercise Physiology*. 2020;9(1):40–42.

**Keywords:** dissemination, cancer, science communication

## INTRODUCTION

The importance of conducting research is underscored by the ability of work to be shared with scientists and the public. As such, dissemination of knowledge is a cornerstone of science. Scientific conferences are a critical process of dissemination, as they allow for the active participation of attendees, as opposed to the passive participation associated with reading research in a journal. Additionally, researchers

not only report and share their latest findings at scientific conferences, but exchange ideas, as these conferences also provide important networking opportunities. However, attendance at these conferences is becoming increasingly challenging due to the financial burden, time constraints, and environmental impact often associated with this traditional forum (1), ultimately limiting the accessibility, reach, and potential impact of the work presented.

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Conflicts of Interest and Source of Funding: None

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As technological advances continue to shape the methods used to communicate globally, the methods used to disseminate scientific information are evolving. Scholarly conversations are increasing on various social media platforms (2). Scientists are using social media to increase their scientific impact, acquire and share information, and communicate research to a broader audience (3). Social media allows for rapid and brief communications that can increase and accelerate scholarly interactions (4). As such, social media is becoming a tool with which to promote scientific findings, build networks and collaborations, and further improve the impact, reach, and engagement of research.

When considering the potential benefits of social media, coupled with the potential limitations of traditional in-person conferences, a new method of dissemination has emerged: the Twitter conference. This novel strategy combines Twitter, a highly visible, high-traffic social networking site, with the structure of a traditional scientific conference. Hosting a conference specifically in this digital medium allows for the dissemination of the latest research findings, complete with engagement in the scientific discourse associated with these dissemination efforts, and is designed to promote open and inclusive science. Twitter is free, provides the ability to share information, and enables real-time networking opportunities between researchers, clinicians, and patients from across the globe. Further, as Twitter publicly indexes tweets, this conference can be revisited by those in attendance initially, as well as those unable to attend in real time. Born from the World Seabird Twitter Conference in 2015 (5), this exciting area of scientific communication has yet to be fully explored in the literature. Therefore, we examine the use of a Twitter conference as a process to effectively communicate advances in the field of exercise oncology. Here, we detail our approach to this method of dissemination, as well as explore the engagement of participants and the potential reach of this type of conference.

## METHODS

The Exercise Oncology Twitter Conference (ExOncTC) occurred in October 2018 and took place entirely on the social networking service Twitter (twitter.com). Twitter allows registered users to post and interact with messages (tweets) via the Twitter Web site and/or its compatible external applications. These tweets are restricted to 280 characters. Tweets can also contain Joint Photographic Experts Group (JPEG) images (up to 4 per tweet), videos (one per tweet) or Graphics Interchange Format (GIF) images (1 per tweet), none of which count against the character limit. Tweets are publicly visible, such that unregistered users can read them, though only registered users can post and interact with tweets. Users may subscribe to other users' tweets by following a user. As of 2018, Twitter had more than 330 million active users.

### Presenters

A Web site (www.exonctc.com), complete with conference information, an abstract submission form, and a participant

registration form, was created. Abstract submissions opened via this Web site 2 months prior to the conference date. Presentations could include original data, previously published work, or thematic pieces related to an area of study within exercise oncology. Conference organizers reviewed submitted abstracts and organized presentations into a program based on both theme and presenter time zone. Each presentation consisted of 6 tweets posted over 15 min, each numbered and labeled with the official conference hashtag (#ExOncTC). Keynote presenters, invited by the conference organizers, presented 10 tweets over 30 min. Presenters were encouraged to use figures, infographics, animations, and/or additional imagery in order to highlight their work within the confines of the medium. Presentations were introduced by the conference organizers and completed in succession across a 19 h period. This strategy was chosen to accommodate the volume of presentations and the numerous time zones associated with presenters and attendees.

### Attendees

Attendees were asked to register (free of charge) via the conference Web site. While attendees were encouraged to register, the conference was open to anyone. All attendees, registered or not, were able to interact during and after each presentation via the Twitter reply function.

### Statistical Analyses

Web site registration data were used to describe presenters and registered participants, while Twitter Analytics (twitter.com) and Union Metrics (unionmetrics.com) were used to aggregate data in order to determine level of engagement and overall reach. Outcomes included number of tweets, number of unique users, total engagements (total number of times registered Twitter users interacted with a tweet), impressions (total number of times users actually viewed a tweet), and potential impressions (total number of times a tweet has been delivered to a Twitter account, leading to the potential for that tweet to be viewed).

## RESULTS

The ExOncTC featured 68 presenters from 13 countries and 48 unique institutions. Presenters varied in both academic background (ranging from undergraduate students [1.5%] to terminal degree holders [46%]) and occupation (including researchers [42.5%] and physicians [6%]). Conference attendees who registered via the Web site ( $n = 231$ ) included researchers, physicians, students, patients, and cancer organizations. Additionally, attendees also participated via following the official conference Twitter handle @ExOncTC ( $n = 805$ ) or by searching the conference hashtag (#ExOncTC).

During the hours of the conference, #ExOncTC was tweeted 1,506 times by 485 unique users. On the day of the conference, there were 4,943 total engagements with tweets labeled with the #ExOncTC conference hashtag. Collectively, these tweets reached 453,900 unique users and yielded 145,000 impressions, with potential impressions equaling 1.8 million.

## CONCLUSIONS

The evolution of social media and its integration into all aspects of society has revolutionized the way people interact with and consume information. The engagement and reach of the first ExOncTC demonstrates the use of a Twitter conference as a promising way to further promote scientific discourse, networking, and dissemination, regardless of geographical location. It is an alternative to the traditional destination-type conference mode. With 1.8 million possible views, this medium represents a way of using technological advances in conjunction with simple social networking applications in order to potentially improve upon traditional information dissemination efforts. Coupled with the low financial and environmental cost, this alternative to traditional scientific communication can lead to enhancements in engagement and reach of scientific research.

The ExOncTC, as with Twitter conferences in general, is not without limitations. While we have shown early promise in the field of exercise oncology, more work is needed to evaluate using this dissemination technique in other academic disciplines, including clinical exercise physiology, before broad recommendations for implementation can be made. Further, as this model of scientific dissemination is in its infancy, our understanding of the true reach of these efforts are limited by current metrics associated with this platform. For example, while the analytics firm we used for

our analysis is an official partner of Twitter and able to license commercial data streams directly from Twitter, the estimated potential reach reported is based on proprietary algorithms, not allowing for comparison among other firms. Further, using outcome measures such as potential reach (which measures how many unique Twitter accounts a tweet has been delivered to, but not necessarily how many times it has been read), makes calculating the actual reach of this medium difficult. Additionally, as this content is publically archived and continually viewable, influence of this conference may continue to grow, suggesting the need for continued assessment over time of these dynamic outcomes. Because the success of using the Twitter conference is based on understanding the effect it may have, more sophisticated analytics may be necessary to determine the true interaction, engagement, and participation of these events.

While ExOncTC was not the first Twitter conference, to our knowledge, this is the first published work to present a roadmap of how to launch and replicate this dissemination effort across academic disciplines, including clinical exercise physiology, thereby representing a promising means to share scientific information more broadly and efficiently. We encourage scientific communities to use the Twitter conference format to explore the role social media platforms can play in enhancing research dissemination and improving the global impact of scholarly work.

## REFERENCES

1. Green M. Are international medical conferences an outdated luxury the planet can't afford? Yes. *BMJ*. 2008;336(7659):1466.
2. Bik HM, Goldstein MC. An introduction to social media for scientists. *PLoS Biol*. 2013;11(4):e1001535. DOI:10.1371/journal.pbio.1001535.
3. Ke Q, Ahn Y-Y, Sugimoto CR. A systematic identification and analysis of scientists on Twitter. *PLoS ONE*. 2017;12(4):e0175368.
4. Darling ES, Shiffman D, Côté IM, Drew JA. The role of Twitter in the life cycle of a scientific publication. *Ideas Ecol Evol*. 2013;6:32–43 DOI:10.4033/iee.2013.6.6.f.
5. Avery-Gomm S, Hammer S, Humphries G. The age of the Twitter conference. *Science*. 2016;352(6292):1404–5.