

Should You Be Tweeting?

Twitter needs no introduction. This “microblogging” service has gained tremendous popularity in the 2 years since its launch. Yet, most scientists are steering clear of it. Laura Bonetta speaks to some who have found value in tweeting.

Twitter, the online service (<http://www.twitter.com>) that launched publicly in August 2006, enables users to send and receive short messages. Known as tweets, these messages get displayed online on an author's Twitter page and are delivered to all of the author's subscribers, or followers, via the Internet or cell phones.

Twitter is most renowned for its celebrity “Twitterers,” who have huge followings. But a growing number of science Twitterers are starting to take up their share of cyberspace. They have found that Twitter provides a useful way to share their insights about recently published papers and science presentations or discussions, as well as information about grants, careers, science policy, and other items of interest.

Why Do It?

One scientist who has found value in Twitter is Brent Stockwell, associate professor of biology and chemistry at Columbia University. “I use it to collect information from science newsfeeds and from various individuals,” he says. “It provides a single source where you can go to scan news and papers.”

There are many ways to stay abreast of research findings, including automated PubMed searches and Google alerts. But, says Stockwell, Twitter provides a unique way to hear about papers “tangentially related to what I am doing, so that they would not come up through my usual alerts, and not sufficiently high profile that I would read about them in *The New York Times*.” He continues, “Sometimes four or five people I follow will mention a paper that I did not come across and I will look it up. I think I am much more up to date on science literature since I started following Twitter.”

Although few established academic researchers have embraced Twitter, Stockwell says there is a large enough group of

science journalists, science magazines, science organizations, and grad students and postdocs posting online to make the service valuable. Stockwell himself regularly highlights papers worth looking at and other items of interest on his account at <http://twitter.com/bstockwell>.

Chris Gunter started to explore Twitter about a year ago, shortly after taking up her current position as director of research affairs at the HudsonAlpha Institute for Biotechnology in Huntsville, Alabama. “One thing that I have to do as part of my job is to communicate our science. I started to explore Twitter as a tool to do this, and I have seen a steady growth in followers.” Her Twitter account, “girlscientist” (<http://twitter.com/girlscientist>), currently has close to 1000 followers.

Like Stockwell, Gunter says Twitter is valuable for keeping up with the scientific literature. “It does not have to be a time sink, like people might think,” she says. “Some people will browse through science journals when they have a break. I look at the Twitter headlines from the people I follow—mostly scientists and science journalists. It just depends on how you choose to spend your time.”

Tweeting from Meetings

Some scientists also use Twitter to report on interesting (or sometimes dreadful) presentations heard at a scientific conference—a practice that has stirred some controversy.

In May of this year, Daniel MacArthur, a researcher at the Wellcome Trust Sanger Institute in Cambridge, UK, who writes a popular blog called Genetic Future (at <http://scienceblogs.com/geneticfuture>) and a related Twitter feed, reported live from the Cold Spring Harbor Laboratory (CSHL) meeting *Biology of Genomes*. The blogs and tweets came to the attention of Genomeweb, an online news service, that took issue with the fact that

MacArthur, a meeting participant, was reporting without having obtained permission from the presenters, a rule that professional journalists attending the conference had to abide by.

Because of the complaints, a month later CSHL released a statement that “any participant intending to blog, twitter or otherwise communicate or disseminate results or discussion presented at the meeting to anonymous third parties must obtain permission from the relevant presenting author before communicating any results or discussion to third party groups, message boards, blogs or other online resources (other than your own lab or departments).”

One of the concerns of conference organizers and speakers is that tweets, unlike regular blogs or news articles, have the potential to spread like wild fire. Anyone who receives an interesting tweet can re-tweet the message, sending it to all of his or her followers.

Jonathan Eisen, evolutionary biologist and professor at the University of California, Davis, regularly blogs and twitters from meetings because his followers have found such postings useful. “Scientists live tweet to provide people who were not able to attend the meeting a sense of what someone is saying, exactly as they say it,” says Eisen. A vocal supporter of open access publishing, Eisen tries to avoid attending “closed” meetings that do not allow unrestricted reporting. “I am not interested in breaking the rules,” he explains. “I will find out ahead of time what the rules about blogging from the conference are, and if it's not allowed, I won't go.”

Eisen was introduced to Twitter by following Lance Armstrong's Twitter postings while the cyclist was in Davis for the Tour of California. Since then, he has embraced the service as a tool for promoting open communication in science. “My main mission is to get science

information out there and to reach as many people as possible,” says Eisen, whose Twitter account (<http://twitter.com/phylogenomics>) has over 1200 followers.

Disseminating scientific information is a driving mission for many Twitter users. “One thing everyone agrees with is that scientists have to learn to communicate their work to non-scientists. Twitter allows anyone to see science in a way that is more accessible, such as scientists reporting on their daily failures and successes,” says Gunter. “In addition, many science writers are on Twitter and that is one place where they get their news tips. They can then write stories that educate and publicize science, and more accurately explain what scientists do to lay people.”

“Twitter and regular blogging are more effective than anything else I do to publicize a paper, which was really surprising to me,” says Eisen. “If you do it right, Twitter is an effective way of telling people about your work.”

How Does It Work?

Twitter posts can be viewed by anyone on the Twitter website. But by signing up (registration on Twitter is free and without commitments to post anything), users can select particular authors to follow. The authors’ postings will then appear as a string of entries—each no more than 140 characters in length—on a personal webpage. Users can also sign up to receive messages by mobile texting or instant messaging.

With more than 5000 followers at <http://twitter.com/sciencebase>, sciencebase is one of the most popular Twitter feeds in science. “I am a small fry though compared to some of the much more successful Twitter users in other niches and I don’t just mean celebrities,” says sciencebase author David Bradley, a chemist by training and freelance science writer based in Cambridge, UK. (In comparison, Richard Dawkins has almost 25,000 followers on his Twitter feed; the actor Ashton Kutcher has 3.8 million.)

Bradley tweets about scientific discoveries and policy matters, typically linking his tweets to articles that appeared in newspapers or blogs, including his own at <http://www.sciencebase.com>. He has collected the names of fellow “scientwists”—a name he coined—in a list that now includes over 600 members (<http://www.sciencebase.com/scienceblog/100-scientific-twitter-friends>). Other collections of science Twitterers include the scientists Twibe (<http://www.twibes.com/group/scientists?id=431277>)—also created by Bradley—and Science Pond (<http://sciencepond.com/>). These websites provide good starting points for anyone who wants to get a taste of what science Twitterers write about and to choose authors to follow.

Although science Twitterers, and their followers, are out there, “those are still small numbers compared to the numbers of scientists who could join,” says Bradley. “But I don’t think it’s just Twitter that [scientists] are not into. I have spoken to a lot of people who either just don’t get online social networking or, if they do get it, they see it as a waste of time.”

Part of the problem is that Twitter has a reputation for being a social venue for friends to tell each other about their daily activities. “There would be little point in scientists joining simply to tweet about their coffee breaks, walking holidays, or showering schedule,” says Bradley. “However, if they wish to share their successes and failures in the lab, swap useful information and tips, or seek advice, then Twitter could be a useful way to do that.”

Too Short?

But how can truly useful information be conveyed when faced with a 140-character limit? The maximum number of characters for a Twitter post was set for compatibility with short message service (SMS)—the type of text messaging used on mobile phones. “I was reluctant to like Twitter because of the character limit,” says Eisen. “But after I started using it I found out it forces people to be concise and creative and

makes others more likely to read the messages. That one piece of restriction is actually the reason why Twitter is so useful.”

But short messages do pose some limitations. “It is a double-edged sword. The majority of my tweets are pointers to other resources, so there is a headline—an enticement in other words—and a link to the resource. You don’t need more than 140 characters for that,” says Bradley. “However you cannot have a decent, full-blown, high-level scientific debate via text message, and Twitter is just the same.”

That limitation is one of the reasons that Jonathan Weissman, a Howard Hughes Medical Institute investigator at the University of California, San Francisco, has stayed away from Twitter. “I could see something similar to Twitter might be useful as a way for a group of scientists to share information. To ask questions like ‘Does anyone have a good antibody?’ ‘How much does everyone pay for oligos?’ ‘Does anyone have experience with this technique?’” he says. But such discussions, he adds, could not be carried out with strict restrictions on text length.

Although Weissman has not adopted Twitter, he does not dismiss the value of connecting communities of scientists. “I think scientists should embrace using the Internet to connect with each other and to advance career goals and technical aspects,” he says. “There are many exciting possibilities, especially for scientists who tend to be a technically savvy group.”

Twitter has taken cyberspace by storm, but it’s still hard to know how big a role it will play in the scientific exchange of information. Those who have experimented with it have found it a valuable tool to keep abreast of discoveries and to disseminate information. And many of them believe the service will grow in popularity as more scientists become familiar with it. On the other hand, new online networking services may become available that will have wider appeal among researchers. If that happens, chances are we will hear about them first on Twitter.

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