Breaking the convention?

Blogs and Twitter are opening up meetings to those not actually there. Does that mean too much access to science in the raw, asks **Geoff Brumfiel**.

Last July, Lars Jensen carried a small shoulder bag of equipment into the atrium of the glass-and-steel conference centre in Toronto, Ontario. Jensen, a bioinformatician at the University of Copenhagen, was one of about 1,400 researchers at the annual Intelligent Systems for Molecular Biology meeting. With him he had the tools of any modern conference attendee: a laptop, a handheld PDA and a digital camera to snap a few photos of his trip.

Jensen immediately did what most researchers do: he logged on to the wireless network. He used his PDA to check FriendFeed — an online social network similar to Facebook that is popular among biologists. “Anyone else signed up for the ‘orienteeering’ event today?” Shirley Wu, a graduate student at Stanford University, California, had written on a page that members had already devoted to the conference. “Nah,” Jensen typed, “bloggers don’t need icebreaker events ;-)”

Jensen’s joke about face-to-face contact proved prescient. Over the next few days, he and nearly 30 other researchers met mostly via their screens in the FriendFeed conference group. During sessions, many group members posted brief comments sent from their laptops or mobile phones to the popular website Twitter, and automatically cross-posted to FriendFeed. Some of these communiqués described a comment from a talk or the flavour of a session. Other posts

were links to relevant papers, or photos from around the conference centre. At one point the group even served as a public address system: “HL33: Session Chair MIA — if anyone sees Yanay Ofra they may want to point him to the session,” wrote Shannon McWeeney, a bioinformatics researcher at the Oregon Health & Science University in Portland.

The virtual coverage “was not something that we had arranged beforehand”, Jensen says. But by the time he and others were finished, hundreds of comments had been posted to the group. The information was so complete that Jensen, Wu and the other ring leaders were able to use it to write an authoritative conference summary that was later published (N. Saunders *et al.* *PLoS Comp. Biol.* 5, e1000263; 2009).

For technophiles and advocates of scientific openness, this is the way of the future.

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— Lars Jensen

Online groups allow meeting attendees to post and discuss research as it is presented, and follow parallel sessions. They also provide an opportunity for researchers not at the meeting, as well as a far wider community, to actively participate in it. “I think it is extremely efficient,” says Jean-Claude Bradley, a chemist at Drexel University in Philadelphia, Pennsylvania. Jonathan Eisen, an evolutionary biologist at the University of California, Davis, adds that ‘twittering’ about a presentation he is listening to helps him to focus. “I don’t want to screw up and say something that’s technically wrong or conceptually wrong,” he says.

But some worry that these tools will undermine meetings. By disseminating scientific results far beyond the lecture hall, blogging and social networking blurs the line between journalists and researchers. Scientists in competitive fields may be more reluctant to discuss new findings if they can be posted on the Internet within seconds. And at a time when many conference attendees are already surfing the web rather than paying attention to the presenter, messaging is yet another annoyance. “Frankly, it can be a distraction if people are typing on their keyboards in the meeting,” says David Stewart, the director of meetings and courses at Cold Spring Harbor Laboratory in New York.

Blogging without leave

Last month, Stewart unwittingly found himself at the centre of the debate about such technologies at Cold Spring Harbor’s annual Biology of Genomes meeting. The meeting was oversubscribed, and many researchers were interested in following the proceedings on the web. Cold Spring Harbor streamed video of the talks online for those who had registered and paid a fee, but an informal group of bloggers also began following events.

Among them was Daniel MacArthur, a geneticist and author of the blog *Genetic Future*. MacArthur says that he decided to blog from the conference at the request of a number of people who couldn’t attend. “They asked whether it would be possible to communicate interesting things during the sessions.”

MacArthur’s comprehensive postings were read by many scientists but they irked journalists

attending the meeting. The meeting rules stated that reporters had to seek permission from speakers before publishing material on their work, rules that Cold Spring Harbor instituted in part because some journals, such as *Nature*, discourage scientists from talking to the press before their work is published. But those rules didn't apply to scientist-bloggers like MacArthur and, after he posted details from a few talks, reporters contacted Stewart for clarification on the policies. The complaint was a wake-up call: "For the first time, I became aware that people were blogging about the data at the meeting," Stewart says.

Blogging can create much thornier issues for researchers. Many presenters are already cautious about revealing unpublished results at meetings for fear that rivals in the audience might note them down. Now that the note-taking is taking place live and on the web, the speed and distance that information spreads has jumped to a new level. "With the set-up I have now, I would be able to sit in a conference, take pictures of every slide that is being shown, and it would be on the Internet within seconds, while the talk is still going on," says Jensen.

This kind of direct-to-web exposure creates problems for many industrial and applied researchers. In the United States, patent applications must be filed within a year of any information becoming available to the public. The exact date of that 'public disclosure' used to be difficult to nail down, but no more, says Michael Natan, chief executive officer of Oxonica Materials, a nanotechnology company in Mountain View, California. In the Internet age, time-stamped photographs

of a talk can let competitors know the exact minute a researcher presented a patentable result. Consequently, "people in industry will be much more circumspect about what they present in public," he says.

Even basic researchers have reason to fret. Last year, a group of theoretical physicists photographed slides from a meeting presentation, extracted the data, and used them in their own analysis, which they published online (see *Nature* 455, 7; 2008). In that case, the theorists were given permission by a presenter, and the photographs were properly cited, but the situation illustrates how easily data can find their way into the public sphere. In many fields, competition is so intense that you must conceal to survive, says Natan.

For denizens of the blogosphere, these sorts of concerns seem a little out of date. "I think scientific conferences are about your sharing with the world what you're doing," says Francis Ouellette, a researcher at the Ontario Institute for Cancer Research in Toronto, who tweeted at the Cold Spring Harbor Meeting. "Whether or not the participant you're sharing with is in the room is somewhat inconsequential."

Ouellette and many other active bloggers are also members of the 'open science' movement, which encourages researchers to make their data public as quickly as possible. Bradley sees this openness as a powerful deterrent to anyone hoping to scoop him at a conference because anything cribbed from his talk is already out on the Internet for everyone else to view. "If someone actually does copy something, I think it would be pretty embarrassing," he says, "it's already there, and it's indexed to Google."

The rights of scientists

Prompted by his recent experience, Stewart has come up with a pragmatic solution. At future meetings, anyone communicating information to third parties, whether by news story, blog or 'tweet', will now be required to ask presenters beforehand. "What we really want to do is to protect the rights of individual scientists to present their data in a pre-published form," he says. "I'm not saying don't blog, I'm saying blog by all means, but get permission." MacArthur says that the new policies seem like a fairly good compromise, but, he adds: "I'm hopeful that

other conferences will tend to adopt more open policies."

Conference organizers contacted by *Nature* had a wide range of policies on social networking. Many societies have banned digital photography in talks and poster sessions and some consider bloggers to be members of the media and subject them to certain reporting restrictions. However, almost nobody has developed a policy on when twittering is fair play. "This has not come up in the past but it may be something we consider in the future," says Kevin Wilson, a spokesman for the American Society for Cell Biology in Bethesda, Maryland.

Journals are also pondering how best to handle social networking at meetings. *Nature* generally supports social media tools, says Philip Campbell, *Nature's* editor-in-chief. And as long as it's not a deliberate attempt to hype a new finding, he says that researchers should feel free to talk to colleagues who blog or twitter. Ginger Pinholster, the director of public programmes for the American Association for the Advancement of Science, the publisher of *Science*, agrees. As long as the scientist wasn't trying to promote his or her work to the public, it wouldn't be a problem. She adds that blogging unpublished results is a problem that "we just haven't run into yet".

Although Cold Spring Harbor has opted for control, the organizers of the Intelligent Systems for Molecular Biology meeting are choosing total openness. When this year's meeting opens in Stockholm later this week, they are planning to fully embrace social networking tools. FriendFeed entries will be created for each talk at the meeting, and the entries for the keynote sessions will be posted directly to the meeting's main website. That means some people could get the buzz of the meeting without travelling to Stockholm at all.

But that's not why Lars Jensen is staying at home this year. The main papers being presented have already been published, he says, so there won't be much new. He might follow the sessions online, but then again, he might catch up the old-fashioned way. "I have colleagues who are going," he says. "I can always ask them afterwards whether anything interesting happened."

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