



Photo courtesy of Monica Dunford

Physicist-bloggers walk a fine line

Ask any physicist: The most common question we hear from family/friends/random strangers in the next seat on the plane is, "What is it, exactly, that you do?" I have even

been asked straight up, "High-energy physics? Is that a real job?"

Yes, it is a real job. I often think of my job description as "searching for answers to fundamental questions about the nature of the universe." This is not a bad job description, in my opinion. But the day-to-day process of how we go about it is very much a black box to people outside the field.

I find this sad because contrary to the perceived image of the shy, antisocial, quiet nerd, we physicists really love to talk about our work and are very animated about it. We are thrilled when we hear the "what is it that you do?" question because this gives us an opening to launch into the details. For that reason, blogging is a heaven-sent forum for physicists. It allows us to relay our excitement and enthusiasm while giving people a better understanding of the daily steps involved in making new scientific discoveries.

When blogging first hit the Internet, my initial thought was, "I give this fad six months, tops." I was cynical about blogging in general and really pessimistic about its place in experimental science. Fast-forwarding many years, not only have I recanted my initial cynicism, but I am also convinced that blogging is an excellent medium for sharing high-energy particle physics with a larger audience.

Yet for those of us who belong to large experimental collaborations, the free-form-diary style of blogging conflicts with procedures set in place for the careful review and publication of scientific results.

This has led to debates within collaborations: How can individual members convey their passion for the science without compromising the integrity of experimental results? How much information should a blogger reveal?

Several large collaborations have already established guidelines for what can and cannot be blogged. They state that bloggers should not disclose unapproved results or write about the work of colleagues without first getting their

permission. Any personal interpretation of results must be clearly marked as such.

This may sound like an attempt at censorship. But the heart of the issue is preventing the release of misleading or false results.

The biggest fear in any experimental community is that it will publish a result claiming the discovery of "new physics" only to have to retract the claim as incorrect. This is the experimental world's Scarlet Letter. Once an experiment has retracted a discovery, all its publications are forever under increased scrutiny. Therefore collaborations tend to be very cautious about revealing any results (even preliminary) until they are confident that the methods used to obtain those results are reliable. This requires an exhaustive review that can take many months or even a year; the entire collaboration must sign off on the results before they can be submitted for publication. A handful of people are then selected to officially reveal the findings at a conference.

Careful scientific review will be especially critical for the first results out of the Large Hadron Collider at CERN, the European particle physics lab. There will be tremendous pressure to publish quickly. Yet the chance of a false discovery is even greater with first data, because there are so many new-detector-induced effects that could be misinterpreted as new physics.

On the other hand, if bloggers cannot be completely open about their work, the insight and excitement they hope to convey are lost.

As in any debate, finding a balance between the two sides is necessary. In my own blog, I find that expressing my zeal for the physics is completely possible without revealing anything prematurely. The aspect of blogging I enjoy most is showing the human side of the science—the camaraderie, the intensity, the trials, and the successes of the people involved. In other words, I tend toward topics that are absent from the scientific journals. As the LHC begins operation, I, for one, cannot wait to hear and tell both the human and scientific dramas in their respective places.

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