

Why Computer Scientists Should Attend Hacker Conferences

Along with the intellectual challenge, scientists may appreciate the technical insight, especially about security, ethical honesty, and common computing interests.



At a recent computer conference, a colleague of mine from a conservative academic institution chatted congenially with another conference attendee. At a typical conference such a conversation would be nothing particularly revealing, but this was DEFCON, and the young lady he was speaking with had a stainless steel spike tipped with a blinking green LED protruding from her lower lip. While some security researchers have described such conferences as “going to a graffiti convention expecting to see those who design spray cans” [1], I beg to differ.

As a computer scientist you would be remiss in not attending one or more hacker conferences. The effort is worth it. You might see a speaker dance through the vulnerabilities in disassembled binaries with the skill of an Aikido master, another demonstrate a modified game console that boots to Linux, scans an internal network, and reports back to its master via encrypted communication paths, or (to the sound of Megadeth) the teams of Capture the Flag and Root-Fu compete in head-on war games. The intensity and talent would make you keenly aware that, so inclined, these people could take apart your carefully crafted, peer-reviewed application, protocol, or algorithm and find its weaknesses—perhaps very publicly or without a word being spoken.

You need only perform an Internet search on DEFCON, Interz0ne, Phreaknic, and Hackers on Planet Earth to get a sense of the passion these

events engender.¹ Attendees range from respected tribal elders to immature hangers-on. Rather than distinctly good or bad, my experience has shown that most represent a more intellectually curious, highly principled, authority-averse, scientifically open-minded attitude. The majority are genuine computer experts from highly technical computing disciplines.

For the past four years my electrical engineering and computer science department at West Point has arranged for faculty members, including me, staff, and students to attend hacker conferences. The decision was based on the intuition of our senior departmental leaders who felt we would benefit personally, professionally, and, most important, pedagogically through exposure to the hacker community. I have now attended 11 and presented at three. With each attendance, my colleagues and I have come away with a greater understanding of the diversity within the computer science culture, the emerging fault lines in the security boundaries of our systems, and an appreciation for the extreme technical expertise, problem solving, and focus that is often marginalized by the mainstream computer science community.

The hackers are largely self- and peer-taught. But do not assume that just because no computer science diplomas hang on their walls (though many do) they are not worth engaging. In many ways their expertise and problem solving exceeds their counterparts in our research laboratories and classrooms. Comments like “I was accepted at MIT but didn’t have the money to attend” and backgrounds

¹For more on these conferences, see: www.defcon.org, www.interz0ne.com, www.phreaknic.info, and www.the-fifth-hope.org/hoop/.

like “when I was a Navy SEAL” are likely to be the norm rather than the exception. Gender, ethnic background, and age are profoundly irrelevant in a diverse meritocracy that glorifies what you demonstrably know. They color outside the lines, unlike many of us who have been trained to color inside them.

Make no mistake; your first attendance is likely to be uncomfortable. You’re unlikely to be instantly recognized as an authority in the field. Instead you will be judged on your attitude, intelligence, creativity, and the content of your conversation. If you present your work (formally or informally) you may find you get a more intense and intellectually honest review than you would from your local research group members or academic peers.

This review can be profoundly beneficial. At a recent Interz0ne conference, I gave a talk on the notion of using information visualization techniques to detect network attacks. Attendees were helpful; one pointed out the subtle similarity between two images and postulated that the attack the tools were visualizing came from the same code base, opening up an entirely new avenue of research. Another noted that a visualization technique under discussion was reminiscent of the Incan quipu. After returning home and looking up the definition of quipu, I found he was right, so I’ve now incorporated ancient communication techniques as inspiration for my current research.

A third attendee wrote a favorable review of my talk and posted it to the broadly disseminated memestreams system (www.memestreams.net). Traffic to my research Web site jumped dramatically. During a related discussion, a fourth clearly explained a novel application of Fourier transforms to my work. I am indebted to these people for the help they freely provided. I would argue that engaging the community in this bidirectional manner would deliver similar rewards.

Far beyond these anecdotal examples, I’ve been profoundly and positively influenced by my interaction with the hacker community. First and foremost, true hackers are not the enemy. One respected hacker explained it as this: “If a group is treated as

the enemy, they will behave like one, but if they are treated as peers and experts who have something to contribute they will rise to the challenge.”

Hacker conferences have taught me respect for interdisciplinary backgrounds and diversity within the computing disciplines. Hackers’ passionate pursuit of technical excellence and lifetime learning, as well as their adventuresome exploration and enjoyment of technology, are to be emulated. I’ve now altered my teaching philosophy to aim to instill these attributes in my students. I now expect them to approach problems from many perspectives, not just search for what they view as the approved solution. I aim to do the same in my own research. In addition, with each conference attendance I return to the classroom with a fresh set of experiences, ethical case studies, possible guest speakers, anecdotes, and software tools to breathe life and relevance into the classroom experience.

As you begin to explore hacker conferences, remember, too, that you are likely stepping into a different social circle. If you treat the culture with respect, rather than writing off people different from yourself, you are also likely to find a great deal of common interest.

We may take different paths through life, have different motivations, play better with certain groups, or have different ethical compass orientations. But there is a common thread—a passion for technology and an intense interest in how things work. You would do well to attend; both communities have much to learn from one another. Oh, and dress casually; sport coat and tie are definitely not required. **□**

REFERENCE

1. Verton, D. Hacker conferences highlight security threats. PCWorld.com (July 20, 2001); www.pcworld.com/news/article/0,aid,55784,00.asp.

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