The Director's Corner
by Gary White

When 2+2 Doesn’t Equal 4, ...Sort of
I never thought I’d see the day when base-3 arithmetic would be appearing in common usage, but it has happened. I’m watching the Astros with my son and he points out that sports reporters commonly refer to a pitcher who hurl for say, two full innings, then strikes out one more batter in the next inning, and then leaves the game, as having pitched 2.1 innings. No, it’s true! They may say “2 and 1/3 innings pitched,” but 2.1 is how it is written; and if you want to add 2.2 innings pitched yesterday to 2.1 innings pitched today, rather than getting 4.4, you get a total of 5.1 innings pitched. So, 2 and 2 doesn’t always equal 4, right? Even more fascinating is that it’s base-10 to the left of the decimal and base-3 to the right!

Now if there was one thing in grammar school math class that I was sure would never see any practical use, it was arithmetic in bases other than 10...especially since I hadn’t imagined the importance of hexa-decimals for computers...but adding in base-3? Who would ever need to know how to do that? Almost anyone who wants to follow the statistics of his or her favorite pitcher, it seems.

I’ve grown to appreciate baseball more in my adult life than I ever did as an unremarkable first-base kid in Little League, and not only because my wife and son are big fans. In some ways, physics brought me to see the light about baseball (recent scandals notwithstanding). When I was teaching a few years back, I saw a baseball bat’s twisting along its axis could play a role in hitting [1]. It was a great day that brought together quite disparate groups on campus (baseball coaches and fans, physics department members, and other campus administrators) for some unprecedented networking—I still remember it fondly.

In some ways, that’s what at the heart of Sigma Pi Sigma, connecting physics to the larger community in which it thrives. Recently, more and more Sigma Pi Sigma members have been stepping up to the plate in a variety of ways to offer their contributions to society as a whole, representing the physics community. Many of you participated in the recent cycle of Adopt-a-Physicist, where high school physics students connect with people with bachelor’s degrees or higher in physics via online discussion forums at http://www.adoptaphysicist.org/. Others have volunteered to serve as on-line mentor through MentorNet or an on-line tutors through Tutor.com. In this issue of Radiations, you’ll find other ways to contribute—writing a “Hidden Physicist” biography so that others can learn from your career trajectory is one way in which you can step up to the plate and contribute to the physics community. If you have found other ways to interweave your physics into the social fabric of your community let us hear about it—we’d love to share the best stories in future issues.

[1] (see Seth LeGrand’s abstract at http://flux.aps.org/meetings/YR99/CENT99/abs/S5505007.html; another thorough reference to some very recent physics-of-baseball results can be found at Alan Nathan’s site, http://webusers.npl.illinois.edu/~a-nathan/job/)