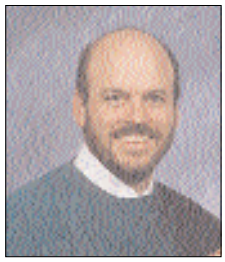
The Director's Corner



Greetings,

It's a small world, and getting smaller, it seems. Recently, I was conducting a Sigma Pi Sigma installation ceremony at Coe College in Cedar Rapids, Iowa, and in a conversation with our national ΣΠΣ president, Steve Feller, it came out that his nephew was a student in my wife's management science class at George Washington University. If this circumstance had arisen 100 or 50 or even 15 years ago, I doubt it would have been detected at all, but when it happened last week, Steve's wife immediately went online and started "Instant Messaging" ("IMing," in the parlance) with her nephew about the merits of my wife's classroom technique and her regrettable choice of baseball teams (Astros) as compared to his own (Yankees). Perhaps this was merely a dollop of serendipity on top of a coincidence. But it felt like more than that, as though we all had been unknowingly connected by invisible strands of mutual knowledge, forming a consciousness bigger than the sum of our parts. Once the connections are revealed, it does make the world seem smaller still, and friendlier.

At left: Sigma Pi Sigma President Steve Feller with one of Sigma Pi Sigma's newest inductees, Sara Campbell. Sara is also a member of the SPS National Council. In the photo at right, Sara, Steve and Coe faculty member James Cottingham welcome another new inductee Desirae Leipply.

I want to take this opportunity to tell you about another vehicle that serves to make the physics world even smaller and friendlier. The Nucleus is a Website designed primarily for physics undergraduates but with features that might appeal to anyone with an interest in physics... **http://www.compadre.org/student/** .

For example, a recent haiku competition on The Nucleus resulted in this capsule on string theory from Ivan Arnold, a junior physics major at the University of Louisville:

One explanation
Intertwining dimensions
Of vibrating strings.

Suzi Topalian, who recently finished her BA in physics from Boston University, wrote an amusing twist on idealizations in physics, entitled *Imagine…*

A spherical cow
Sure, that makes a lot of sense,
But how would it taste?

The 5-7-5 syllabic structure of classical Japanese haiku is its most obvious feature, but there are more subtle aspects to its construction as well (for details, see **http://www.toyomasu.com/haiku/**).

Besides hosting little diversions such as the contest mentioned above, The Nucleus also has summer research position listings, a virtual lounge, online physics polls, reviews of texts, physics history exhibits and more. In its first few months of existence this site has been welcomed into the physics community with open arms with over 100 campuses posting their summer research positions, over 500 students registering with the site, and thousands more visiting the site.

The Nucleus is part of the national physics digital library, which goes by the lengthy name Communities for Physics and Astronomy Digital Resources in Education (ComPADRE). ComPADRE's vision is to create a network of collections that provides learning resources and interactive learning environments. I invite you to go online to **http://www.compadre.org/student/** to explore this site, to con-

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American Institute of Physics

The American Institute of Physics (AIP) is a not-for-profit membership corporation chartered in New York State in 1931 for the purpose of promoting the advancement and diffusion of the knowledge of the science of physics and its applications to human welfare. In order to achieve its purpose, AIP serves physics and related fields of science and technology by serving its Member Societies, individual scientists, educators, students, research and development leaders, and the general public with programs, services, and publications—***Information That Matters***.

The Institute publishes its own scientific journals as well as those of its Member Societies; provides abstracting and indexing services; provides on–line database and e-mail services; disseminates reliable information on physics to the public; collects and analyzes statistics on the profession and on physics education; encourages and assists in the documentation and study of the history and philosophy of physics; cooperates with other organizations on educational projects at all levels; and collects and analyzes information on Federal programs and budgets.

The Institute represents approximately 110,000 scientists through its Member Societies. In addition, approximately 6,000 students in more than 600 colleges and universities are members of the Institute's Society of Physics Students, which includes the honor society Sigma Pi Sigma. Industry is represented through 50 Corporate Associates members.

Member Societies

American Physical Society
Optical Society of America
Acoustical Society of America
The Society of Rheology
American Association of Physics Teachers
American Crystallographic Association
American Astronomical Society
American Association of Physicists in Medicine
AVS—The Science & Technology Society
American Geophysical Union

Other Member Organizations

Sigma Pi Sigma, Physics Honor Society
Society of Physics Students
Corporate Associates

2004 Quadrennial Congress of Sigma Pi Sigma
"Heritage & Promise"
October 15–16, 2004
University of New Mexico, Albuquerque, NM

Whether inducted 60 years ago or last month, all members of Sigma Pi Sigma (the national physics honor society) are invited to attend and participate. Sessions will explore how Einstein's 1905 contributions are still impacting physics today. Other sessions will discuss honor and ethics in science. Here, too, Einstein provides a model. His letter to President Roosevelt of August 2, 1939, soon led (under the leadership of others) to the Manhattan Project. As a vocal pacifist, and as a refugee from Nazi brutality, Einstein signed that somber letter with reluctance. With the rise of Fascism and, coincidentally, nuclear physics in the same decade, Einstein's dilemma of 1939 well illustrates how the applications of science must be guided by ethical principles. Since nuclear weapons were first built and tested within two hours' drive of the site of our 2004 Congress, we believe Einstein would be pleased for us to discuss these matters as part of our meeting.

Distinguished speakers include:

- Jocelyn Bell-Burnell, Discoverer of Pulsars;
- Carl Wieman, Nobel Laureate, Bose-Einstein condensation in dilute gases of alkali atoms;
- John Marburger, Science Advisor to the President of the United States; and
- John Rigden, author of *Hydrogen*.

Congress participants will have a special opportunity to visit the Trinity Site, where the first atomic bomb was detonated in 1945. Trinity is normally open to the public only two days a year. Through a special agreement, White Sands Missile Range is opening the site, just for Congress participants who arrive a day early to tour (Thursday, October 14, 2004).

For updates on the Congress, or to express an interest in attending, visit:
www.sigmapisigma.org/congress.htm

Calling all chapters of Sigma Pi Sigma! Each chapter send "ONE & ONE."

"Perpetuate the Heritage & Promise" by sending **ONE** Sigma Pi Sigma alumnus (through personal invitation) and **ONE** current undergraduate member (through fundraisers) to be voting delegates to the Congress and to make connections with influential physicists from around the world. Others besides the "one & one" participants are, of course, invited to attend the conference.

For more information about the "One & One" program, please visit:
www.sigmapisigma.org/congress.htm

We look forward to seeing you in Albuquerque next fall!

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The Director's Corner

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tribute to its content, and to join this physics community.

Perhaps, like Brandon Swift, a fourth-year astrophysics student at Berkeley, you will be inspired to produce poetry of your own—here's his lean reflection on an electron's view of barrier penetration,

Many, many times
Will I tunnel through this wall?
Ow. Probably not.

Paul Tandy's reaction to the $110 price tag on a physics book also received praise from the contest judges, which were drawn from students and faculty serving on the SPS/Sigma Pi Sigma Council,

Pricey physics text
Cannot afford to buy it
Too big to xerox.

Finally, at the risk of abusing the director's prerogative, I'll close with my own entry—not prizewinners, but a cute pair about a self-referential curiosity in the canon of mathematical functions.

Step Function's namesake,
Heaviside, sounds like it looks.
Providence or joke?

If Alexander
Graham had seen like fortune, we'd
Admire his Bell Curve.

If you'd like to submit a physics haiku to us, don't hesitate, whether online or by regular mail! I am planning to have a display of them at the Sigma Pi Sigma 2004 Congress, which is described in some detail in this issue. I hope you will join us for the event. It's your chance to revisit your physics roots, to network with other physicists, and who knows…you may come away with your own entry in the "It's a Small World" catalog. ◆