



Features  
Photo Feature  
Profiles  
In Brief  
Achievements  
Back Issues

Calendar  
Jobs@UIowa  
UI News Services

Contact Us  
Subscribe

## Profiles

### Dale Stille, Physics and Astronomy, College of Liberal Arts and Sciences

*Dale Stille knows how to liven up a physics classroom. Whether he has someone zooming around the room in a "rocket car" or laying waste to a row of soda cans courtesy of his "ping-pong ball accelerator," Stille has a blast demonstrating the principles of physics to students of all ages.*

*For the past 23 years, Stille has coordinated instructional resources and outreach activities for the Department of Physics and Astronomy at The University of Iowa. His work supplements UI professors' teachings, and he takes his show on the road to science classrooms in schools throughout Iowa, entertaining and educating audiences ranging from kindergarten through 12th grade.*

*Stille took some time away from his demonstrations and his outside interests (working on the house, tending his yard) to sit down with **fyi** to discuss his favorite demonstrations, his fondness for Iowa City, and the treasures he finds in University Surplus.*



Dale Stille, coordinator of instructional resources and outreach services for the Department of Physics and Astronomy. Photo by Tom Jorgensen.

#### **Describe your work for the physics and astronomy department.**

I take care of the instructional resources for the Department of Physics and Astronomy—that entails all the extras that are put into the physics or astronomy classrooms besides the professor and his lecture notes. This regularly includes demonstrations relating science principles and concepts to the real world, media on tape or DVD, audio examples, web-based materials, and other examples of physics and astronomy science, concepts, or theories.

All of this is designed, made, and organized in room 58 of Van Allen Hall. I provide guided tours of the behind-the-scenes efforts that go into today's physics or astronomy lectures.

#### **Do you have any favorite demonstrations?**

You really can't go wrong with the hydrogen/oxygen balloon explosions, the ping-pong ball accelerator, the rocket car, the jumping rings/electromagnetic rail gun, and those involving liquid nitrogen. (Click [here](#) to see more photos from Stille's work area.)

### **What sorts of outreach services do you provide?**

Our "Hawk-Eyes on Science" outreach program performs 40 to 60 outreach demonstrations shows each year. The program features Professor Vincent Rodgers and me, along with the efforts of many other professors, staff, and graduate and undergraduate students from the department of Physics and Astronomy. Our show typically consists of demonstrations in electricity and magnetism, electromagnetic spectrum, and quantum mechanics. For larger events such as the annual Department of Physics and Astronomy Demonstration Show, which takes place in February, we expand this to include demonstrations in astronomy, acoustics, optics, mechanics, heat, and fluids.

### **Who's your typical audience?**

Our audience is usually K-12 students and their parents, but we tailor our program for the audience. We have presented for preschool and older adult audiences. Normally we travel up to 100 miles from Iowa City, but have gone farther on occasion. A list of programs and events we have done since 2005 can be seen at <http://faraday.physics.uiowa.edu/hes/index.htm>.

### **You're a big fan of UI Surplus. What sorts of things are you able to use in your demonstrations that otherwise might go to waste?**

UI Surplus is a great place to start if you need to upgrade your equipment or lab infrastructure on a limited budget. A majority of my rolling AV carts and tables, vacuum pumps, printers, file cabinets, variacs, and Plexiglas items and containers have come from UI Surplus. With minor modifications, all of these things go immediately to improving the instructional resources area and the demonstrations offered there.

### **Who else works in your area?**

Additional work in my area is all done by student employees. I usually get one part-time student to work for me during the regular semester, and up to three part-time students during the summer session. My current student, Donald Frank, has been with me for two years and does most of the machinist (lathe, mill, etc.) work. He also takes care of most of the computer database entries for the instructional resources web site. Shop training and support for my students are provided by our great Physics and Astronomy machine shop under the direction of

### **A few of my favorite things ...**

**Food: chili, cherry pie**

**Drink: Mountain Dew**

**Weekday lunch spot: lunch? Who has time for that?**

**Reading: anything by Clive Cussler**

**Music: rock 'n' roll...Scorpions**

**Movies: *Pirates of the Caribbean* and its sequels**

**TV: *CSI: Crime Scene Investigation***

**Web sites: <http://faraday.physics.uiowa.edu> and [www.pira-online.org](http://www.pira-online.org)**

**Sports teams: the Hawkeyes, of course!**

supervisor/machinist Mike Fountain, and staff machinists Larry Detweiler and Bill Baum. Many of the innovations that we implement in the instructional resource area come from the advice, ideas, and experience that these people provide.

Another University employee who is critical to this area is Larry Schroeder. Part of his responsibility to the department is to ensure that the lecture room and instructional resource computers and equipment we use run with minimal disruptions. He also is the one who has procured most of the great surplus items we use.

### **What led you to a career in science?**

The interest always has been there. When I was little I can remember taking my toys apart just to see how they worked. This led to bachelor's and master's degrees in chemistry from Buena Vista University and The University of Iowa, respectively, and eventually to my position here in the Department of Physics and Astronomy.

### **What brought you to The University of Iowa?**

My wife, Kathy, was accepted into the radiologic technician program here. While she attended classes I started work here in the Instructional Resource section. We liked the Iowa City area so much that after her graduation we continued to live and work here.

### **What's the best thing about your job?**

I work with great people. Also, I am given the support to acquire most of the resources I need to succeed at my job. The support I receive from the University and especially the Department of Physics and Astronomy is excellent. The development of the department's outreach component into a world-class program was somewhat unexpected; now if only I could get a larger work area...

by Christopher Clair

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