

### Dan MacIsaac, Column Editor

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WebSights features reviews of select sites presenting physics teaching strategies, as well as shorter announcements of sites of interest to physics teachers. All sites are copyrighted by their authors. This column is available as a web page at http://PhysicsEd.BuffaloState.Edu/pubs/WebSights. If you have successfully used a site to teach physics that you feel is outstanding and appropriate for WebSights, please email me the URL and describe how you use it to teach. The person submitting the best site monthly will receive a T-shirt.

## • Two Free Circuit Simulators and Circuit Diagram editors for PC

My electronics class has been recently using two very nice circuit diagramming and simulation packages. First of all, we have been using the no longer supported but still freely distributed CircuitMaker 6.0 Student Edition for Windows. This package is available from several universities' electrical engineering and electronics course pages (UC Santa Barbara, CUNY Queen's College, several public domain software warehouses— use Google to find a download site). A very friendly, much simpler product that runs as a JAVA applet (on PCs only) is Digital WorkShop, a student project created by Ms Deborah Lynch under the direction of Professor Paul Fishwick of the University of Florida's Computer and Information Science and Engineering Department at http://www.cis.ufl.edu/~fishwick/dig/dlesp.htm. Both are nice, free PC solutions for student use.

#### • Web Cartoons for Physics and Mathematics: http://xkcd.com/ and http://www.foxtrot.com

The web cartoon *xkcd* has been pointed out several times on the PHYS-L mailing list this past month. Written and drawn by Randall Munroe, physics degree holder, the strip contains much math, science and computer science humor updated three times weekly, with accompanying artwork and t-shirts for sale. The cartoons "Nerd Sniping," http://xkcd.com/356/, and "Centrifugal Force," http://xkcd.com/123/, are particularly recommended. Many readers are aware of the more family-oriented nationally syndicated *FoxTrot* by Bill Amend, a graduate in physics from Amherst College. Many of his physics-oriented cartoons (weekly updated online) from his books are available as mugs and t-shirts from http://www.foxtrot.com/.

# • Soda Pop Bottle Water Rocketry goes "professional"

The company website of the AntiGravity Research Corp. http://antigravityresearch.com of Chiliwack BC, Canada advertises parts and kits for creating many vari-

ants (multiple stages etc) of the standard soda pop water rocket so loved by physics teachers and their students. I was particularly impressed with a movie of a carbonfiber reinforced (kevlar tape wrapping is also possible) water bottle rocket pressurized to 1,150 psi launched over 1200 feet into the air, and also by a video showing someone riding a box mounted atop a water rocket. Definitely a website worth a visit by the water rocket aficionado. A follow-up search of the Wikipedia Water Rocket page, http://en.wikipedia.org/wiki/Water\_ rocket, revealed other sites including the current world record holder from U.S. Water Rockets http://www. uswaterrockets.com/ and the site of the Water Rocket Achievement World Record Association http://wra2. org/1000\_foot\_challenge.php. Aficianados rejoice! Contributed by Dave Henry of the SUNY- Buffalo State College Elementary Education and Reading

#### • Physics Teaching Videos and Collections of Links

Wayne Easterling of Arizona State University Physics points out the world's largest air vortex cannon video at http://www.boreme.com/boreme/funny-2008/biggest-air-vortex-candle-p1.php. The latest Ask an Astronomer podcast from NASA's Spitzer Science Center http://coolcosmos.ipac.caltech.edu/cosmic\_classroom/ask\_astronomer/video/ has a very nice explanation of how human color vision perceives blackbody radiation in the video *Why Aren't There Any Green Stars?* 

Dr. Robert Dalling, Physics Instructor at the Louisiana School for Math, Science and the Arts has amassed an immense collection of some 2000 links dedicated to introductory physics instruction on his homepage http://faculty.lsmsa.edu/RDalling/physlink.htm. I have placed his email describing some of a very many highlights of his collection at http://physicsed.buffalostate.edu/pubs/WebSights/2007-8/05-2008/DallingLinks.htm.

Contributed by Wayne Easterling of Arizona State University Physics and Dr. Robert Dalling, Physics Instructor at the Louisiana School for Math, Science and the Arts, rdalling@lsmsa.edu>.