

PUBLISHER

Randolph A. Nanna
Tel: 301-209-3102
rnanna@aip.org

ASSOCIATE PUBLISHER/EDITOR

Kenneth J. McNaughton
Tel: 301-209-3051
kmcnaugh@aip.org

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EDITORIAL OFFICES

One Physics Ellipse
College Park, MD 20740-3842
Tel: 301-209-3051
Fax: 301-209-0842
e-mail: tip@aip.org

ADVERTISING OFFICES

Tel: 800-247-2242

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LETTERS

Physics and quality

I have just received the April/May issue of TIP and was delighted to read the article by Mark Annett, "The Physicist as Quality Engineer." Physicists would take even more note of this potential career path if they realized that the founder of modern statistical quality control, Walter A. Shewhart, and its greatest advocate, W. Edwards Deming, were both trained as physicists.

Shewhart had a Ph.D. in physics (Berkeley, 1917) and Deming had a Ph.D. in mathematical physics (Yale, 1928). Deming was extremely influential in postwar Japan and later in the U.S. for advocating a scientifically based quality management philosophy. So physicists have been playing major roles in quality engineering from its birth, a fact that does not seem to be well known in the physics community.

Christopher Tong
Dept. of Physics, Purdue University
West Lafayette, Indiana
ctong@purdue.edu

Good prep

I can't tell you how invaluable *The Industrial Physicist* is to our science program at Tri-City Prep High School. Each issue is read and re-read by both staff and students alike. It seems you are reading our minds, since your articles help lead us into a discussion of what we are studying in physics, chemistry, and biology, as well as aerospace science. Many of our recently submitted student pro-

jects at the Northern Arizona Science and Engineering Fair have been the result of articles students have read in your magazine. Thank you for producing such a magazine. You can be sure the future scientists we produce at TCP will fondly remember your magazine and the significant differences you have made in their lives as they searched for new ideas and approaches in science.

David B. Somerville, science master
Tri-City Prep High School
Prescott, Arizona
somervillenah@clansomerville.net

Maglev redux

I greatly enjoyed your article in the last issue of *The Industrial Physicist* ("The evolution of transport," April/May, pp. 20–24) and have long been interested in transportation matters. Several years ago, in my dissertation, I was researching mobile robots that learned to locomote and, as part of that work, I studied the metrics of motion and transport. I found a number of interesting references and metrics, but the one I used was one of the simplest—specific resistance, the product of power and velocity divided by the weight. It is a dimensionless metric that has a number of nice features. It is a measure of the efficacy of locomotion (Gabrielli, G., and von Karman, T. What price speed?: Specific power required for propulsion of vehicles *Mechanical Engineering* 1950 72, 775–781). The authors graphed a large



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