David Lynch either has forgotten or never needed to use the pre-computer format for figures submitted to journals: They were either handmade India-ink drawings or glossy photographs of those drawings. Every author had to pay a drawing shop or personally master the art. Computers are easier and cheaper, but enable authors to submit unusable figures. My favorite, from my experience as editor of *Bioelectromagnetics*, is the black-and-white version of a false color map, with both extremes (red and blue) appearing as black and the intermediate yellow showing as white. No editor or publisher can fix that.

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Lynch replies: I was struck by David Couzens's thoughtful comments on the inherent stumbling blocks of change. When he asks "Does electronic publishing save money?" he goes on to recognize that "Time is money." But whose time and whose money? A scientist can choose to labor over a paper as long as he likes to get it right, using whatever tools he chooses. But then he is slapped in the face and told that his pains are all for naught unless he spends a lot of time—money—conforming to the publisher's scientifically irrelevant submission requirements. "Sorry, your scientific best isn't good enough because your font is wrong."

Has physics unknowingly suffered because the author of a worthy paper didn't have the time or financial resources to meet the publisher's self-enforced, self-serving formatting and submission requirements?

I recently self-published a book. In the past I would have gone to a major scientific publisher. But if I am going to be forced to meet the publisher's onerous formatting and style requirements, I might as well self-publish and do it my way. My hero in this regard is Lawrence N. Mertz (1930–2002), who bypassed the journal requirements by publishing summaries of his scientific work as paid advertisements in the *Journal of the Optical Society of America.*

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Serving nontraditional graduate students

According to a report from the National Center for Education Statistics,[1] the percentage of undergraduate students who attended college part-time grew from 28% to 39% between 1970 and 1999. This suggests a need for nontraditional graduate study as well. Still, few physics programs actively work with nontraditional graduate students. As more students and universities become involved in lifelong learning, developing physics programs that cater to nontraditional students will become more important. Many master's programs in business administration are already beginning to focus on nontraditional students; it's time for physics programs to do the same.

Instead of following the traditional path in which graduate students are recruited exclusively from undergraduate physics programs and are expected to attend full-time, the University of Houston–Clear Lake (UHCL) developed a program that focuses on part-time, nontraditional students. As a result, we can educate students who would not normally be able to complete a graduate physics degree because of nonacademic obligations.

A nontraditional upper-level undergraduate and graduate university, UHCL was established as a commuter campus for the University of Houston system. About half of its students take classes part-time. The average age of students is 30 years for undergraduates, and 32 for graduate students. In the fall of 2002, we began to develop the university's first physics degree, an MS. The program began operations in fall of 2004 and currently has 40–50 graduate students; seven MS degrees were awarded in 2005. However, unlike most physics programs, almost all of our classes are offered in the evenings, and a majority of our students work full-time.

We developed the physics MS program based on community interest as determined by an online survey of employers and potential students in the local aerospace and petrochemical industries. Overall, the respondents wanted a program that could prepare students with engineering backgrounds for PhD study in physics, astronomy, or related areas while broadening the technical backgrounds of practicing engineers. The most difficult part of developing the curriculum was working within the restrictions of the part-time students. Almost all of our classes are taught in the evenings, and many involve group learning. Although we included both thesis and non-thesis options in the curriculum, the majority of students choose the non-thesis option. The capstone experience for those students consists of at least one semester of independent study research and a class in writing and publishing scientific papers and giving oral presentations. Our part-time students also seem to prefer theoretical and computational work that better allows them to schedule research time. Experimental work is typically done in collaboration with labs at the neighboring Johnson Space Center, where many of our students work full-time.

Because of the immediate popularity of this program among working students, we developed a professional physics sub-plan for the training of technical managers. The plan combines the physics core with business and organizational training from UHCL's systems engineering and management programs.

Overall, the response to the physics MS program has made it clear that a lot of people would love to pursue an advanced degree in physics but can only do so as nontraditional students. In physics we tend to follow an old model that expects students to work continuously from bachelor's degree through graduate school and postdoctoral study. Those who digress from the standard path are accused of leaving physics and are rarely welcomed back. In the wake of September 11, and as relative enrollments in science, mathematics, and engineering continue to decline nationwide, perhaps it's time to consider a new approach.

Reference

1. National Center for Education Statistics, http://nces.ed.gov/programs/coe/2002/analyses/nontraditional/index.asp.

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Why no Einstein's laws?

Since my undergraduate days, I have been puzzled by the fact that we have Newton's laws of motion but only Einstein's theory of special relativity. We have finished celebrating the 100th anniversary of the publication of the theory of special relativity, and it seems to me that after a century of validation, it's time to rename it as more than just a theory.

I propose that we, as physicists, define a set of Einstein's laws, just as we have Newton's laws, Coulomb's law, or Faraday's law. I begin the discussion by offering the following three laws:

- The laws of physics are identical in