

How to Become a Teacher—Quickly

Bruce Schulte (August 1995, page 73) worries about what a physics PhD can do for income while acquiring whatever a state requires for a secondary school teaching certificate. He may have nothing to worry about.

Many states are in desperate enough need of science and math teachers that they relax standards. They don't want to discourage those who didn't come through the traditional education pipeline; they realize they need all the people from graduate programs, business, industry, etc. who want to teach. For example, Texas made it possible for me to go straight from an MS in physics to the classroom. I was given an "emergency" certificate; the only requirements were that I work with a university on a plan to become permanently certified and that I periodically show progress toward that goal. There is also a little-known law in Texas that makes it possible for someone with a graduate degree to obtain a permanent teaching certificate without having to do all that is required of an undergraduate. Other states may well have similar provisions because it is

unlikely that Texas is the only state in which science and math teachers are in such short supply.

My advice to physics students interested in becoming teachers: If you are still in graduate school, you can clear some hurdles while still a student and plan ahead to avoid others. Talk to the education department at your school. If necessary, talk to your state board of education. You could also contact me by e-mail for advice (VTTW74A@prodigy.com). It may be easier than you think to go from graduate student to high school teacher.

AMY VIVEIROS
Midland, Texas

Limit the Demand for Job References

We know that a statistically average scientist in mid-career sends out many applications, and that having good references is a key element in being considered for a job. We also know it can be difficult to obtain letters of recommendation, in that the number of reputable people who really know the applicant well is always limited, and they are usually very busy.

Unfortunately, many employers now demand that references be supplied whenever a person applies for a job, and they simply reject any application that fails to include letters of recommendation.

I consider their demand to be unjustified because rarely are all candidates given equal importance by a prospective employer, and only one of them is going to get the job anyway.

That is why I suggest that employers ask for letters of recommendation only from the short-listed candidates. That would save time for all three parties—the employers, the applicants and the reference suppliers.

IGOR BERESNEV
Carleton University
Ottawa, Ontario, Canada

Your Attenuation Please

In case you don't get a thousand other physicists telling you, I'd like to point out that the imaging line integral in William Hendee's otherwise fine article on "X Rays in Medicine" (November 1995, page 51) is wrong. One integrates the linear attenuation coefficient, not the exponential.

DOUGLAS R. WYMAN
Hamilton Regional Cancer Centre
Hamilton, Ontario, Canada ■

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Instrument Engineer

The Jet Propulsion Laboratory is a federally-funded research and development center operated for NASA by the California Institute of Technology located in Pasadena.

We are currently seeking a Member of technical Staff to be responsible for the telescopes' instruments located at JPL's Table Mountain Observatory (near Wrightwood, California). You will ensure continuous operation of the telescopes' electronics, assist in the mechanical operation of the telescopes and design, fabricate and test electronic circuits to improve telescopes' operation. One will also assist in the design of future instruments and where necessary will interface with suppliers and vendors.

Applicants must have a degree in electrical/electronic engineering or physics and at least two years experience in the design, development, test and validation of telescope instruments to include, but not limited to low noise SiCCD visible imagers, InSb and other near-IR detectors, SiAs devices, bolometers and other mid-IR systems and their electronic circuits. Experience is also required in the design, fabrication, and test validation of electrical and electronic circuits; understanding of the optical systems and optical materials as used in astronomical cameras, apertures photometers, and spectrometers from the visible through mid-IR (0.3 to 30 micrometers) wavelengths.

Qualified candidates please send resume and salary history to: **Staffing, Dept. T48, Jet Propulsion Laboratory, California Institute of Technology, 4800 Oak Grove Drive, M/S 249-104, Pasadena, CA 91109.** EOE

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