

Speaking Out

I have just received my Ph.D. in nuclear physics from Yale University and have been looking for positions in industry for about three months. I am having a hard time finding a good employer who believes I could be useful. I set my mind for a position in the industrial environment, probably because my B.S. was in electrical engineering. Every time I talk to somebody in a company, he/she tells me the company doesn't have anything for a physicist. Being a nuclear physicist makes it especially hard to convince them I can be a very good choice. I know I have the potential to fit into these companies, but they don't see it that way. I was glad to read your article, and I hope some people in industry will see it and be more receptive toward physics Ph.D.s.

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I received a B.S. in physics with minors in chemistry and math from Oglethorpe University, a liberal arts school in Georgia, in 1993. From there, I went to Georgia Tech, receiving my M.S. in health physics in 1994. Since then, I have worked under the titles radiation safety specialist, research assistant, research scientist, deputy radiological safety officer, and scientist, first for a small biotech firm, and then for a preclinical research organization in pharmaceutical development. As many others have mentioned, every day I use the problem-solving skills and knowledge of basic physical principles that I learned early on. These skills, combined with the communication skills gained from a solid liberal-arts core curriculum, have made me one of the most versatile people in the company. In three years, I have taken on multiple tasks, including radiation dosimetry, topical pharmaceutical emulsion development, photomicrography, pharmacokinetic data reduction and statistical analysis through computer programming, and quality assurance docu-

mentation for equipment validation and federal regulatory compliance.

Throughout all of these diverse tasks, my

Many readers responded to the article by John S. Rigden in the September 1997 issue of *The Industrial Physicist*, "Find the Hidden Physicist" (pp. 52-53). We published some of those responses in December 1997 and have added more here.



title has always been more closely related to my level of responsibility and years of experience than the education and scientific experience I have. I think this is terribly unfortunate, since, in a company of chemists, I am always assumed to be a chemist, too. Thus, the value that the more fundamental perspective of physics has to problem solving is overlooked, and other physicists aren't even considered as potentially employable when job openings arise. I was only hired originally because I knew the person responsible for setting up a company radiation safety program. My training in physics was never considered relevant beyond the fact that I had "a degree." When I recently interviewed for a new internal position, I was shocked to discover that my boss, the senior scientific vice president, didn't even know what health physics really was. He always just assumed it wasn't relevant to what I was doing for him. This incident really brought home to me the general plight of physicists in industry. I hadn't previously considered that it might be a widespread problem.

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I was surprised at the reactions expressed to the article titled "Find the Hidden Physicist." Most of the letters were from people complaining about their title. Some stated that a physics degree made one more capable than other degrees. A job title is meaningless. What counts is doing good technical work. Good employees can adapt to new

projects independent of their degrees. I've known chemists, engineers, and physicists who have done outstanding work in areas

outside their educational backgrounds. A good employer will recognize their skills and reward them with promotions, raises, bonuses, and/or awards. If you're doing good work and not being recognized by your employer, it's time to look for a new job. Complaining won't make the problem go away.

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I enjoyed reading your piece on missing physicists. This is exactly what I have experienced. At first, I had very little luck at getting a job with the B.S. in physics I got at Miami University in 1980. Since I was getting married right away, I needed to go to work, not continue in school. Besides, by that time, I had had enough of the academic student life and I wanted to get far away from the university environment. Over the years, I have forgotten how many times I heard personnel officers explain that they "only hired engineers." This was very discouraging for someone fresh out of school. I also experienced some gender bias back then. (I am happy to say that for the most part, this is no longer a factor in my employment.)

In my professional journey since leaving Miami, despite having the academic "handicap" of a B.S. in physics rather than a B.S. in engineering, I have worked in waste research for EPA (physical scientist), as an oceanographer (acoustician) for the U.S. Navy, and on solid and liquid rockets for the NASA Marshall Space Flight Center (aerospace engineer). In bad times, I have also worked as a cleaning lady, in a frame shop, and as a stocker at Wal-Mart. At present, I am in a

science-oriented group at the NASA Goddard Space Flight Center (assistant research scientist), where I have encountered the reverse prejudice against non-Ph.Ds. So there is no easy answer.

Based on my professional experiences, I have learned over the past 17 years that my heart lies in applied physics and mechanical engineering rather than research. I have especially enjoyed working in NASA manned flight systems. My conclusion is that in retrospect, I should have gotten the B.S. in physics, but then immediately enrolled in a mechanical engineering program, preferably one with government and corporate sponsorship, where I could have gained priceless coop experience and gone right to work after graduating. I now deeply regret not pursuing an engineering degree. It has severely limited my opportunities.

It doesn't hurt my feelings if "physicist" is not in my job title. Being unemployed is much, much worse. I have had many job titles over the years; I liked the title "rocket scientist" the best.

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Here at the University of Wisconsin (Platteville), we have given up trying to sell the B.S. in physics—even though everyone here agrees, including preprofessional students, that the training one gets is excellent preparation. We get lots of testimonials from alumni, in all sorts of occupations, attesting to this. We have replaced our traditional physics major with an engineering physics major. Our new program started in September 1996, and we already have 28 majors.

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Being a physics major planning to attend graduate school, I have had numerous people ask me why I ever went into physics, because "there are almost no jobs out there." Well, I have had to correct them by saying that in numerous situations people actually employ physicists before anyone else because they tend to pick up on things faster and can bring new ideas into the workplace. I just thought I would comment on the article. It is nice to see that someone is watching out for us. Thanks.

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It takes a long time for physicists to prove themselves in a career, but once they do, everyone in their organization recognizes their value. It's not the same for engineers, who come with their credentials printed on their diploma. We physicists do have greater freedom than our engineering peers, in that if we don't like our chosen careers, we can always pursue another, since we are equally qualified/unqualified for any number of technical disciplines.

James Smith
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My company sells data-acquisition systems and is interested in reaching physicists in industry. The problem is that we can't find them. A recent search of our 54,000-record database turned up only two industrial physicists with "physicist" in their job titles. Are physicists embarrassed to use the term? Or is it that employers don't recognize the contributions that physicists make?

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If you would like to share your reactions, mail responses to Hidden Physicists, The Industrial Physicist, One Physics Ellipse, College Park, MD 20740-3043, fax (301-209-0842), or e-mail (tip@aip.org).