

# Too Few PhDs in Safety

*A student's perspective on a growing professional need*

By Michael Behm

IN 1999, I BEGAN a personal search for a doctoral degree program in safety. Based on this experience, it was not surprising to read the results of the now frequently quoted Institute of Medicine (IOM) 2000 report entitled "Safe Work in the 21st Century: Training Needs for the Next Decade's Occupational Safety and Health Professional." The July 2000 issue of *Professional Safety* (pg. 1) summarized the report as "Too few Ph.D.s in safety." The IOM report makes two key findings that are of interest to the prospective safety doctoral student:

- Safety professionals with doctorates are necessary, both for the conduct of critical research in injury prevention and the continued viability of the academic programs that produce practicing safety professionals at the associate, bachelor's and master's degree level (IOM 156).

- There is a need for greater knowledge in nontechnical topics such as behavioral science, management and evaluation methods (IOM 153).

This article offers one doctoral student's views and experiences with the process of selecting a safety Ph.D. program and examines the issue of too few Ph.D.s in safety from the student's perspective. Throughout my search, it became clear that prospective students need additional choices in doctoral-granting institutions, more faculty members who are sincerely interested in safety research and greater opportunities for funding, specifically through graduate teaching assistantships. The process of narrowing specific research interests from the general category of safety further limits one's choices. For example, my specific research interests are in safety management. After an exhaustive search, only two institutions and their faculty were found to be complementary to

those interests: Oregon State University and West Virginia University.

## The Faculty Gap

Since November 1998, *Professional Safety's* classifieds have listed 25 unique safety faculty positions (Table 1). A position was included in the summary if its emphasis was safety related. Faculty posi-

experience of safety faculty and the potential for a faculty shortage (43+). He concluded that if a faculty shortage does occur, the past 20 years of progress in producing quality safety graduates may be reversed, as schools struggle to recruit faculty with terminal degrees (and perhaps not as closely related to safety as those in the profession might desire) or even instructors with no field experience. Poorly prepared entry-level safety personnel seriously hamper safety's claim as a true profession (Adams 45).

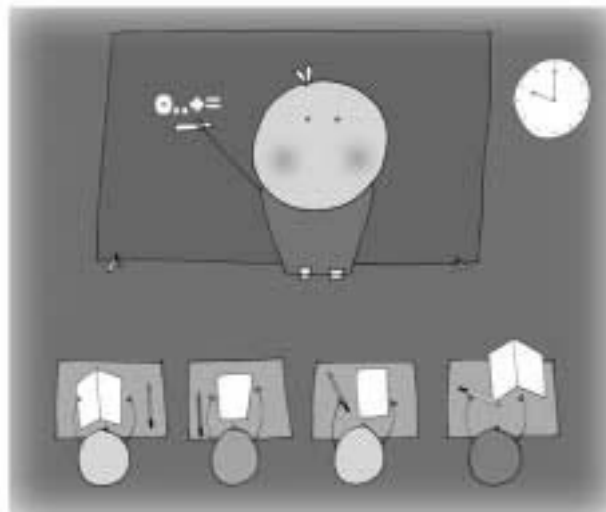
Therefore, a doctoral degree in specific safety disciplines, such as safety management, should be available for interested technical professionals. One institution's new safety doctoral program claims to provide students with a balance of technical and management principles (Myers 48-50). More universities must begin to fill this gap. (Editor's Note: For a complete list of degree programs, see ASSE's publication, "College and University Directory: Safety and Related Degree Programs," available

at [www.asse.org](http://www.asse.org), under "About ASSE," "Academic Standards.")

## Finding a Safety Ph.D. Program

As noted, ASSE publishes a guide on safety degree programs. Institutions listed in the guide as having a doctoral program were reviewed via their respective websites. Those institutions with curricula and faculty in safety were contacted via phone and e-mail. One Canadian university was contacted and considered as well.

Unfortunately, the curricula and faculty research interests at most universities focused primarily in traditional industrial hygiene areas. Some universities stated that one faculty member "might" have minor research interests in safety management but could not offer degree or



tions in industrial hygiene, community health and industrial engineering that did not include safety were considered dissimilar and were not included in the qualification summary. A repeat listing within six months of the original was not included on the assumption that the first position had not been filled. Based on these position descriptions, the requirements for prospective safety faculty are:

- 1) a doctoral degree;
- 2) certified safety professional (CSP) designation or some closely related certification [the certified industrial hygienist (CIH) designation was the most frequently listed alternative];
- 3) university teaching experience;
- 4) professional work experience.

Adams detailed the education and

research emphasis in safety. A few public-health-based programs referred me to someone interested in injury epidemiology, but most acknowledged or admitted, "We really only have industrial hygiene research interests." The most frustrating part of my search was the non-response of a few institutions and faculty.

At minimum, three contact attempts were made depending on my interest in the program. I also contacted several industrial relations and organizational management programs, but again, found little or no faculty interest in safety management; in addition, the curricula in these programs did not support my research interests in safety management.

Based on my experience, I have concluded that if the prospective doctoral student wants to research traditional industrial hygiene rubrics, numerous institutional choices exist, and many faculty are available for support and mentoring. However, if the student wants to conduct research on specific aspects of safety management, s/he will have difficulty locating faculty with related interest. These facts indicate one reason for the lack of doctoral-trained safety professionals, which leaves the profession in a vicious cycle: Too few Ph.D.s in safety leads to few doctoral-granting institutions with faculty interested in safety research, which causes students to pursue industrial-hygiene-related research in their Ph.D. programs, which leads back to too few Ph.D.s in safety.

### Locating & Selecting a Mentor

Selecting a quality mentor may be the most important factor when deciding where and with whom to pursue the Ph.D. A good mentor will foster new thoughts and help to refine a student's research ideas. For this reason, a mentor's research interests should closely match those of the prospective student. Finding faculty interested in safety management research is difficult. Some faculty listed safety management as an interest, but when contacted, emphasized their interests in injury epidemiology or traditional industrial hygiene. The term "safety management" is broad and must be defined individually. For example, if a student's research interests are the methods firms use to integrate safety into the business function, that student should locate faculty with similar interests. Faculty interested in developing effective

thermal stress programs, although this may be defined as safety management, would not be a suitable fit.

The student's supervisor for the next three to four years is the major professor, so the student should be sure that s/he can work with and for that person. The initial phone call to a faculty member is a good indicator of how s/he will mentor. Before calling, it is best to develop a list of questions and a discussion outline. Be direct and do not waste time asking questions that are answered on his/her faculty web page. In return, faculty must be willing to listen to the prospective student's thoughts in a constructive manner and provide clear responses. The sidebar on pg. 40 lists initial considerations when evaluating doctoral institutions and faculty.

Doctoral students gain a distinct advantage working with faculty members who have strong working relationships with local businesses. Consulting work or an internship maintains the practical side of safety and adds credibility to teaching and research activities. Ideally, the relationships and networks constructed may be utilized in the dissertation phase and beyond.

### Making Education Economically Viable: The Assistantship

Universities require faculty to possess terminal degrees, professional certifications, and both professional and teaching experience. If a safety professional has both professional experience and certifications, it is logical to conclude that s/he also has a satisfying and well-paying career. Therefore, a support mechanism is needed to entice safety professionals to leave that career position to pursue the doctoral degree.

A graduate teaching/research assistantship or other support mechanism enables students to immerse themselves in the academic environment. Furthermore, rather than taking a part-time job, the student can fully devote his/her time and energy to academics, research and refinement of dissertation ideas. Since there is a safety faculty gap, and universi-

ties list teaching experience in their faculty position descriptions, it would be logical that doctoral-granting institutions offer a teaching assistantship or, at minimum, the opportunity to team-teach undergraduate courses.

The graduate assistantship also offers unique opportunities for ongoing incidental learning. Academic immersion on campus fosters interaction with other teaching and research assistants or faculty that otherwise would occur only during scheduled contacts. These unscheduled contacts are invaluable both in building professional relationships and initiating scholarly discussion.

### What to Do

ASSE recently formed the Academics Practice Specialty, which serves as a vehicle to notify ASSE senior leadership of progressive issues that impact students, as well as important education issues (ASSE). According to practice specialty administrator Kathleen Miezio, "We don't have an answer to the safety Ph.D. issue but we do formally discuss the topic at each meeting." Because of its function and ASSE support, this group is well-positioned to address the problem of too few Ph.D.s in safety and the challenges faced by prospective safety doctoral students.

Doctoral-/research-based institutions, as classified by The Carnegie Foundation for the Advancement of Teaching, should also take a lead in addressing these issues. These institutions are well-positioned to provide safety research mentoring to the prospective Ph.D. safety student. I suggest that ASSE and the Academics Practice Specialty, along with existing research-based universities, consider the following suggestions:

- Limited safety management research is being performed in academia. How often have you heard that hiring managers believe newly graduated safety professionals have great technical skills but lack basic managerial and business skills required in industry? In fact, the inaugural Academics Practice Specialty newsletter contains quotes of this very nature.

**Table 1**

## Summary of Qualifications in 25 Safety Faculty Positions

Required, Preferred or Desired Qualification	Doctoral Degree	CSP or Other Professional Certification (CIH, P.E.)	University Teaching Experience	Professional Experience
<b>Number of Ads Listing the Specific Qualification</b>	24	19	17	17

*Data from Professional Safety classifieds, Nov. 1998 through Oct. 2001.*

## Considerations for the Prospective Ph.D. Student

1) Define your interests. Make a list of five general topics, such as safety management. A more-detailed summary of research interests is required in most doctoral applications.

2) Locate doctoral-granting institutions and faculty with safety research interests by examining ASSE's "College and University Directory: Safety and Related Degree Programs." Evaluate faculty members' specific research interests. Their personal web pages are a great place to start. Read their doctoral dissertations. Select faculty whose interests closely match your own. Hopefully, a few more institutions will create safety Ph.D. programs to provide more choices of faculty and varied research interests.

3) Determine whether the available coursework is complementary to your research interests. The major and minor coursework must create a framework for your dissertation.

4) Define any prerequisites you lack and plan to satisfy those requirements before or soon after enrollment.

5) Interview faculty every time you communicate. Determine whether you can work with and for the person. This may be the most critical factor when deciding on a specific program. The commitment is three to four years full-time for most programs. Ask if s/he plans to continue as faculty at his/her current institution.

6) Determine the types of support available, funding cycles and deadlines. Ask whether graduate teaching and research assistantships are available, and obtain a brief description of duties. Assistantships are an excellent method of immersing in academic life and can help the student build relationships with faculty. Federal funding and scholarships are also available at some institutions.

7) Make sure the professors have business contacts. Part-time consulting work and internships are necessary to gain additional experience and are great networking tools.

Perhaps there is a connection between the limited amount of safety management research being conducted in academia and the lack of business management skills among recent safety graduates.

•The safety profession is interdisciplinary. Generate discussion on doctoral program administration not just with traditional safety faculty, but through collaboration with engineering, business, technology and other related university departments and faculty.

•Do not encourage every university to offer a Ph.D. in safety. The degree must not be watered down; it must remain grounded in quality safety research and—most importantly—be mentored by faculty who actually conduct safety research. Too many "degree-mill" programs already exist. This issue has no

quick fix, but a few more quality safety Ph.D. programs with a small number of available and funded student slots would be a great start.

•Take caution when expanding existing doctoral programs in related fields to include safety. Many related programs currently include safety in their title, but they are focused on industrial hygiene and ergonomics-related research. In my opinion, safety's uniqueness is masked by these related disciplines.

•Avoid excess distance learning in doctoral programs. For the reasons supporting the assistantship and the incidental learning opportunities described earlier, on-campus study and research provides for a greater learning experience.

•Assist academic programs and faculty with funding and development of doctoral students through assistantships. Develop innovative and creative methods via the teaching assistantship to solve current faculty shortages while providing students with an opportunity for doctoral education.

•Utilize the IOM report as evidence to governmental agencies that safety doctoral programs are needed and that funding should be directed to new and existing programs.

### Wishes Do Come True

I found a university and a mentor that matched my educational and research needs. To align my experience with my career goals, the graduate teaching assistantship was preferable to other forms of

assistance. In addition, it decreased the economic pressures created by leaving a mid-level career as a safety professional. Under faculty supervision, I teach three undergraduate courses: Introduction to Occupational Safety, Global Perspectives of Environmental Health, and Health and Safety Statistics. This varied teaching load is challenging, but the experience gained will be well worth it when applying for a faculty position. Several of my former professors have said that I would learn the most by teaching—thus far they have been correct. In addition, an opportunity became available to become a research assistant for a professor in construction engineering management working on barriers in safety design. These opportunities are invaluable and would not be available in a distance educational setting.

The proverbial ball is now in my court to fill the gap as a practical university safety educator. The major and minor curricula and the research/statistics components provide excellent preparation for future occupational safety and health educators and researchers. This combined immersion of academic rigor and varied on-the-job experience is excellent preparation for my future goals of filling the safety faculty gap. Because I entered doctoral study with a master's degree, a minimum of three academic years will be required to complete the Ph.D., or at least to reach the point of ABD (all but dissertation), finished with data collection and searching for my first faculty position.

### Conclusion

The prospective safety doctoral student faces a difficult task in program selection unless more institutions begin to offer a terminal degree in safety. Understanding the difficulty before the search begins is half the battle. Although the choices are limited, the student must not sacrifice research interests, career goals or a quality mentor, nor experience undue economic hardship. The safety profession would have been well served had it heeded the advice Adams alluded to more than four years ago: The scarcity of Ph.D. programs could hamper safety's claim as a true profession. ■

### References

- Adams, S.J. "An Analysis of Safety Faculty Education, Experience and Compensation." *Professional Safety*. Sept. 1997: 43-45.
- American Society of Safety Engineers (ASSE). "College and University Directory: Safety and Related Degree Programs." Des Plaines, IL: ASSE, 1999.
- ASSE. "ASSE Launches Program to Increase Student Involvement in Safety." Press Release. Des Plaines, IL: ASSE, June 25, 2001.
- Institute of Medicine. "Safe Work in the 21st Century: Education and Training Needs for the Next Decade's Occupational Safety and Health Personnel." Washington, DC: National Academy Press, 2000.
- Myers, W.R. and G.L. Winn. "A Doctoral Program for the Next Generation." *Professional Safety*. Oct. 2001: 47-50.

Michael Behm, CSP, is a graduate teaching assistant and a first-year doctoral student in Oregon State University's Dept. of Public Health, Corvallis, OR. He holds a B.S. in Occupational Safety and Hygiene Management from Millersville University, and an M.S. in Industrial Hygiene from Temple University. He has more than 10 years of professional occupational safety and industrial hygiene experience in various manufacturing settings.

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