

Aren't You Retired Yet?

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Aren't you retired yet?

It's a simple question that doesn't really have a simple answer for most people.

At my age, I get the question a lot these days. The answer is often based mostly on age, financial or health issues. Beyond that, it is mostly a question of whether you enjoy what you are doing.

In my case, there are parts of my job that I certainly am ready to get rid of, but much of what I do, I can see doing for some time yet as long as the financial and health issues don't interfere.

Being involved with undergraduate and graduate students, young men and women mostly under the age of 25, makes me feel that I am about that age myself. I'm not delusional, though, and I know they must feel like I am pretty old, ancient even, but they are polite enough to not make a big deal of the age difference.

I know that back in the 1960s and 1970s I felt that a lot of my professors were pretty old, ancient even, when I was the age of my current students. Most of today's students are interested in sound and vibration, particularly the experimental focus that we have at the University of Cincinnati (UC). Most are in the mechanical engineering area with some from aerospace engineering and some from civil engineering. At the graduate level, most are from other countries (more about that later). All are very interested in learning about experimental testing in the sound and vibration areas to understand and solve problems and/or calibrate and validate models.

Mentoring these students is the rewarding part of the job and probably the biggest reason I have not yet retired. But I have set a target date for at least partial retirement so I can free up my schedule and enjoy some of the many other things I want to do. This is probably the strongest reason that most people eventually choose retirement. Another is just to keep from having to constantly answer the retirement question.

I attended an informal holiday luncheon for SDRC alumni last week, and the retirement question came up a lot. By the way, in case you are wondering, and as background to keep the acronym alive, SDRC refers to the Structural Dynamics Research Corporation, and SDRC alumni refers to anyone who worked at SDRC over the years of its existence. SDRC formed out of the University of Cincinnati in 1967, specialized in structural dynamics testing and computer aided engineering (CAE) and continued to operate under the SDRC logo until 2001. In 2007, the remaining products and activities were purchased by Siemens AG, although

some of the people and activities associated with SDRC spun off to new or existing companies in the structural dynamics business. I worked at SDRC for a short time during graduate school and am happy to be included.

But I digress . . . those at the luncheon are mostly retired but all are still active in one way or another in structural dynamics technology. It was good to catch up with everyone. All of them who asked about my retirement seemed to understand that I was in no hurry to completely retire just as they have not completely retired. Many asked about the number of students working in the sound and vibration area at UC and in the Structural Dynamics Research Lab (SDRL). Many were interested in what the future plans were for the structural dynamics area and the SDRL. At this point, I'm not sure I can answer those questions, and this is probably another reason I am not rushing into retirement. Maybe when I have more answers to what the future may hold, I will

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be more ready for some form of retirement.

Over the past year, a number of companies have visited UC and the SDRL to try to determine where their sound and vibration employees will be coming from in the future. They have senior test personnel retiring or moving into administrative assignments and need to find a recruitment pool of technical employees who are trained and ready to move into open slots.

This is not a new phenomenon but is becoming more of a problem as more employees retire and as more faculty teaching in these areas retire. Three of the companies are from the auto industry and have had the luxury in the past of hiring graduating students who were qualified to fill vacancies. As that industry rebounds, they are unable to find experienced, qualified students and must compete with other industries that increasingly use sound and vibration technology.

In some respects, it makes little sense to expect to find experience in graduating students, but in the past, with the cooperative work experience required in engineering at UC and experienced research assistants in the SDRL, companies have often found

students with practical training that offset the lack of true work experience. This is increasingly not the case.

At the undergraduate level, the amount of coursework and experience in sound and vibration is mostly limited to their cooperative work assignment and the few elective class slots available to students in their senior year. To obtain significant experience, students generally have to stay for a graduate degree.

Most U.S. citizens who want to pursue a graduate degree know that they can take full-time employment and pursue the degree part-time. It is very difficult to attract these students into a graduate program other than as part-time students.

At the full-time graduate level, the students are mostly from foreign countries and have difficulty remaining in the U.S. beyond a one-year period for their optional practical training (OPT) visa. Many of the research opportunities in sound and vibration that provide the funding for graduate students are from DOD agencies or companies that limit foreign participation. At the graduate level, there may be enough course content, but that is slowly eroding as faculty retire. Furthermore, graduate students often choose a focus area that is in an emerging research area following the focus of their graduate mentors.

In the 1960s and 1970s, the emerging research areas included many sound and vibration topics that required analytical methods and experimental testing as companion research areas. But no longer. Students are looking to their faculty mentors for guidance, and most of the emerging (funded) research areas are not in the sound and vibration areas. Many new engineering faculty focus on areas involving new materials (carbon nanotubes, for example) or many areas associated with biological or biomedical topics. Additionally, these research focus areas are generally not limited to U.S. citizens. The new faculty must focus on these research areas to achieve promotion and tenure. Right now, the availability of funding is greater in those areas, and the amount of funding per research project is generally larger by a factor of about 10.

When looking for new faculty to fill positions, most have limited experience in traditional mechanical engineering core topics, and it has already impacted hiring decisions. If this trend continues, companies and agencies in need of future employees in the sound and vibration areas will have to increasingly rely upon in-house training and specialized short courses to develop their employees. This will require

time on the job to become proficient where in the past, students used their time in undergraduate and graduate courses to get the required background.

Times are changing, as can be expected, and I do not want everything to stay the same. However, I still see a need to provide the background of sound and vibration technology in an academic setting. I don't see really good answers as to how this will be managed in the future, even the near future. It will be an exciting time as sound

and vibration technology and academic programs evolve. And I still want to be in the middle of it for a few more years.

These are some of the reasons I am in no hurry to rush to retirement. I am extremely lucky to be able to make the decision on my terms and my schedule. I am still very interested in learning about new testing technology, new data processing and analysis as well as analytical approaches to problems. Some of my retired faculty colleagues send mixed messages, arguing that I should not

delay further, but most still want to be involved in some way as mentors to students. For now, I think I will hang tight and endure the frequent retirement question.

I hope this gives you something interesting to think about and, as always, I value your comments on my editorial. If you have comments, please feel free to contact me (Randall.Allemang@UC.EDU). Best wishes for the new year. 