



## **How Professional Society Membership is Affected by Returning Student Status**

**Dr. Anne M Lucietto, Purdue University**

Dr. Lucietto is a Visiting Assistant Professor in the School of Engineering Technology at Purdue University.

**Dr. Diane L Peters, Kettering University**

Dr. Peters is an Assistant Professor of Mechanical Engineering at Kettering University.

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*In recent years, several research efforts have aimed to understand the issues surrounding engineering professionals returning to the academic environment for graduate degrees in engineering. This research focuses on a variety of issues: why they return, what they hope to do afterwards, and what their experiences are in the academic environment. While those are important issues, interaction with professional societies while in the workplace and pursuing graduate work are also of concern. Many engineering professionals, both in industry and in academia, value activities with these organizations while advancing in membership levels as they advance through their careers.*

*Advancement may be complicated when a professional society member returns to school for full time study; they often find themselves choosing between paying the higher dues of a professional or returning to student status. We discuss the options available in a sampling of different professional engineering societies, including several engineering disciplinary societies and interdisciplinary societies focused on underrepresented minorities within engineering. The intent is to examine the differences, and highlight successful policies for use by professional societies and other organizations serving the returning student population.*

### **Background**

Professional societies provide a variety of benefits to their members, both tangible and intangible. These benefits are often promoted through societies' websites, newsletters, and magazines, as they attempt to attract new members, retain existing members, and draw members into taking an active role in the society. As an example, a President's Message in the IEEE *Microwave Magazine* set out both tangible and non-tangible benefits of IEEE membership, with tangible benefits including the society's magazine, discounts on journals, standards, and conference registration, career-related resources, and group life insurance.<sup>1</sup> Non-tangible benefits included the ability to hold office, professional development and networking opportunities, and the ability to influence the direction taken by the society.<sup>1</sup> One of IEEE's divisions, the Control Systems Society, published a similar President's Message in the IEEE *Control Systems Magazine*, which focused more on the need to belong to a technical community and the benefits gained by volunteering within the society.<sup>2</sup> Quite some time earlier, an editorial column titled "The Value of Volunteering" was published in the ASME International Design Engineering Division Newsletter, setting out the value of being not just a member, but an active member, in the society.<sup>3</sup>

Some of the professional society benefits specifically designed for student members include mentoring programs, particularly those created to encourage women to pursue academic careers.<sup>4</sup> Professional society conferences also provide an avenue for under-represented minority students to be recruited into graduate schools; as noted by Reichert & Absher<sup>5</sup>, some graduate schools seeking more minority applicants find that recruiting at the National Society of Black Engineers (NSBE) and the Society of Hispanic Professional Engineers (SHPE) is effective. While this benefits the institution, it is also a benefit to the students who are recruited. Once these students have entered graduate programs, they are often involved in technical societies through conference presentations. By presenting at society conferences, students build their academic

publication record and have the opportunity to network within their academic community, which is useful as they approach the end of their academic degree programs and begin to look for employment.

In most societies, there is a progression in one’s membership grade, types of offices that can be held, and level of respect that members receive, often with an increase in dues as a member progresses through the society, and presumably in their career. Student membership typically is less expensive, with student and professional membership dues for several societies noted in Table 1. However, this type of progression does not account for the non-linear career and educational paths of returning students, those who pursue graduate study after obtaining significant industry experience. As noted by Schilling, some societies do not allow full (professional) members to later obtain student rates; even when student membership is an option, it may constrain a member’s path within the society, as many professional societies restrict the offices that may be held by student members.<sup>6</sup>

**Table 1: Student and Professional Dues for Various Societies**

<b>Professional Society</b>	<b>Student Dues</b>	<b>Professional Dues</b>
Society of Women Engineers (SWE)	\$20	\$100
American Society for Engineering Education (ASEE)	\$30	\$100
American Society for Mechanical Engineers (ASME International)	\$25	\$149
International Electrical and Electronics Engineers (IEEE)	\$32	\$196
American Society for Civil Engineers (ASCE)	FREE	\$225
American Society for Materials (ASM International)	\$30	\$107
American Institute of Chemical Engineers (AIChE)	\$50 - graduate FREE - undergrad	\$199
Institute of Industrial Engineers (IIE)	\$37	\$149

Returners are an important part of the engineering graduate population; while they have not been extensively studied, recent research efforts have investigated their identities as professionals and as students<sup>7</sup>, their motivations for returning, the value they perceive in their graduate programs, and their experiences within those programs.<sup>8,9</sup> These research efforts have found that there are important differences in the values that returners and direct pathway students see in graduate study, and in how they deal with the costs of graduate study, both financial and non-financial.<sup>8</sup> When returners’ motivations were analyzed under Expectancy Value Theory, returners were found to be motivated more by utility value than by interest or attainment values.<sup>8</sup> Costs of graduate study, both financial and non-financial, were a significant factor in the decision to return, with various strategies employed to mitigate those costs. In a further analysis, the utility seen by returners was analyzed inductively, and it was found that there were three types of utility value: plans to pursue an academic career, the wish to advance in an existing career path, and the wish to re-direct an industry career path into a different area of industry.<sup>9</sup>

Ongoing research efforts are contrasting them with direct-pathway students, those who do not take a break of any significant length between undergraduate and graduate study, and examining

the ways in which the two groups are similar and different.<sup>10,11</sup> However, these research efforts have not addressed the interaction between returners and their professional societies. Given the benefits these societies can provide, their importance to graduate students, and the issues reported by Schilling<sup>6</sup>, this is an important area to understand in order to properly support returners in their graduate programs.

## Methodology

In order to understand the ways in which different professional engineering organizations interact with students of various types and pathways, information was gathered from the websites of some organizations. These organizations represent a sampling of the full range of engineering organizations that exist. In some cases, it was not clear how returning graduate students' membership could be handled; in these cases, examination of the society's website was followed by personal contact with representatives of the society in an attempt to clarify or gather further information on how they handle the status of the returning graduate student.

## Results

The results of the web searches and phone calls to a sampling of engineering organizations are given in Table 2. The societies represented in this table are primarily disciplinary societies, for the disciplines of mechanical engineering, materials engineering chemical engineering, industrial engineering, and electrical engineering, represented by ASME International, ASM International, AIChE, IIE, and IEEE, respectively. One society focused on an underrepresented group, the Society of Women Engineers (SWE), is also represented.

**Table 2: Student Grade Observations**

	ASME Int.	ASM-Int.	AIChE	IIE	IEEE	SWE
Student Grade	Available	Available	Available 2 Types <sup>3</sup>	Available	Available	Available
Correct Personal Membership Online	Must Call <sup>1</sup>	Advised Not to Change	Unclear	Unclear	Available Online	Must Call <sup>1</sup>
Support for Nontraditional Students	None	None	None	None	None	Little
Student Years Contribute to Life Total	Yes	Not available online	Not available online	Yes	Not available online	No
Clear Nontraditional Student Treatment Guidelines	No <sup>2</sup>	No <sup>2</sup>	No <sup>2</sup>	No <sup>2</sup>	No <sup>2</sup>	No <sup>2</sup>

Reference to Student Members	Wording on website appears to be for direct path students.	“Material Advantage” Program appears to be for direct path student.	Student programs are clearly designed for direct path students only.	Terminology “young engineers” indicates direct path students only.	Student programs appear to be designed for direct path students only.	Increase in nontraditional students in membership has created an awareness of this group.
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<sup>1</sup>Long term members have reported that they have lost years from their recorded membership; information regarding their status has changed (early career with 20+ years of industry experience).

<sup>2</sup>Organizations have not documented how they treat the non-traditional member/student.

<sup>3</sup>Organization offers free membership to undergraduate students and paid membership to graduate students.

Each professional society has a different way of handling student members. All of the societies examined in this investigation have a program, membership level, or some other way to address undergraduate students. Some of the professional societies address graduate students as a distinct group within their membership, while some do not. In the sampling of societies included in this investigation, it was found that AIChE has two different student membership levels, undergraduate and graduate. In no case, was there any mention of the non-traditional student as a distinct group to be addressed by membership grades or categories. There is no evidence of support of non-traditional students and the wording of the sampled societies indicated that they focus their attention on the direct path student.

In three of the six societies sampled the authors found that a phone call is required to learn of options to stay in the society, continue recognition as a professional, and maintain membership status for prior years. In one case, the individual was advised to keep professional membership status because they did not have a way to maintain prior membership status. The only society that has a clear methodology for working with non-traditional students is the Society of Women Engineers, which allows either collegiate or professional members to designate in their profile that they are graduate students, thus allowing them to choose the membership grade they want while identifying themselves as graduate students. This is a recent development, representing the way in which SWE has adapted to the specific needs of this group of members as they have become more visible within the society.

Further investigation was done to determine if student membership years contributed to life membership status. ASME International and IIE both allow student years to contribute to life membership status; ASM-International, AIChE, and IEEE did not specify online. SWE does not consider years in determining life membership; SWE’s life membership program involves a donation to the organization of a sum equivalent to 20 times the current annual professional dues, and thus is unaffected by returning student status. It is possible for a returning graduate student to hold life membership status, and in that case she would not suffer any adverse financial impact from retaining professional membership status; in fact, it would be quite difficult if not impossible to change to collegiate membership.

It should be noted that there is one engineering society that focuses specifically on nontraditional students and their needs, the Association for Nontraditional Students in Higher Education (ANSHE). They appear to be an organization that supports nontraditional undergraduate students

in the full range of undergraduate disciplines. No organization like ANSHE was found for nontraditional graduate students, either specifically in engineering or in the general graduate population.

## **Discussion**

Returning students who are long term members of professional societies have found that it is challenging to learn what options they have when returning to graduate school. While financial considerations would naturally dictate a return to student status, where that is an option, that presents challenges in maintaining professional status and credit for years served in the organization. Often the personnel in the organizations with whom they interact are sympathetic, but they are unaware of the appropriate way of handling the request to go from professional status to student status without losing the benefits of a long tenure in the organization. Indeed, depending on the membership structure of the organization, it may not be possible to do so at all.

Professional organizations do value students as members, and they do address student issues. However, most often they develop programs such as ASM-International's Material Advantage program. This program is appropriate for the direct pathway student, but there is no mention of how a graduate student and/or a nontraditional student could fit within such a program. The assumption is that a member who is a student would be newly joining ASM International under this program, and then would become a professional member upon graduation. There is no provision to enter the Material Advantage program after professional membership without starting over within the organization, and losing credit for all previous years as a member.

Furthermore, many societies use terminology that carries assumptions about the age of student members. As an example, IIE uses terminology that appears to be somewhat exclusionary, referring to the students as "young engineers," which totally ignores the possibility of students returning to school later in life. ASME, while appearing to be rather flexible and willing to work with nontraditional students, has difficulty with appropriate bulk email. They are known for sending e-mail regarding early career engineers to experienced engineers who have a recent degree. As an example, an engineer with more than 20 years of experience prior to attending graduate school for a more advanced degree will, upon completing that new degree, start receiving e-mails aimed at early career engineers. When consulted about this they too are sympathetic, but unclear regarding resolution of the issue. Of course, someone receiving such an e-mail can simply delete it, but it creates a perception that there is one recognized educational and career pathway.

## **Conclusion**

In this preliminary study, it has been shown that many engineering professional organizations have structured their membership programs under the assumption that members progress linearly from student status to professional status, and have not accounted for a return to school for an advanced degree later in an engineer's career. This is not due to any type of negative impression of such students, but rather from an unawareness of the issue. Many organizations' representatives, when contacted, were sympathetic to the issues faced by such students; however, due to the lack of knowledge of what options existed, it was difficult to gather information about

what options may exist; this difficulty is reflected in the relatively small list of organizations represented in this study.

Future work should include further investigation, with a broader sampling of engineering and professional societies represented. Furthermore, the value of professional societies to graduate students in general has not been studied, nor have any studies addressed the ways in which returning graduate students' unique situation may affect both what they need from their professional societies and what they can offer to those societies. Further investigation on all of these topics is expected to be valuable, and can generate valuable information on ways in which societies can better attract and serve this population.

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