

in the final analysis

"I have always imagined that Paradise will be a kind of library."

—Jorge Luis Borges

Throughout history, there have been many, many visions for the hereafter, from the bucolic Elysian Fields of ancient Rome, the happy hunting grounds of the Lakota people, the Heavenly billowing clouds and flowing robes of Renaissance masters, and the less reverential Planet Orlando from Broadway's *Book of Mormon*. I quite fancy the notion of eternity as a library, being a complete yet ever-expanding reservoir of fact, scholarship, philosophy, and imagination. If I can write my own epitaph, three words will do: "Tell me more."

At risk of being too parochial, TMS is certainly in the "tell me more" trade with our journals, studies and roadmaps, courses, meetings, etc., etc. Another tell-me-more enterprise is the National Academy of Engineering (NAE). The interests and activities of NAE and TMS frequently complement each other. A recent intersection of common cause is the academy's effort, "Engagement of Engineering Societies in Undergraduate Engineering Education." Last December, NAE convened a workshop on this topic with the goal of exploring how engineering societies can help better align engineering education with the needs of industry.*

TMS was well-represented by our immediate past Professional Development Director, Jeff Fergus (associate dean and professor of materials engineering, Samuel Ginn College of Engineering, Auburn University). He presented, "Meeting Industry's Educational Needs on Sustainability." Professor Fergus referenced a 2013 survey of TMS industrial members and noted that the respondents had indicated sustainability as an important consideration in business and technical decisions. However, the importance of sustainability is not reflected in graduating engineers' competencies. Professor Fergus gave credit to the four committees that comprise the Society's Professional Development Directorate as working to better prepare undergraduates for sustainability and other issues by developing short courses and webinars to meet the needs of industry and developing guidance to academic programs.

Aside from the 15 presentations, the workshop also held roundtable discussions to identify issues, barriers, and opportunities to close the gaps between industry and undergraduate education. This resulted in a series of recommendations for professional societies, including:

- Sponsor major student competitions and projects.
- Work with industry to create bodies of knowledge for engineers; develop courses for lifelong learning and mentorship programs for faculty; oversee micro-credentialing programs; and create opportunities in industry for faculty and postdocs.
- Help engineers returning to the workforce and provide a professional home for those transitioning between academia and industry.
- Establish apprenticeship programs and other partnerships.
- Facilitate connections between industry, colleges and universities, and pre-K through 12 education.

Those are a lot of good ideas and there are others. But, the participants recognize that challenges to realizing these recommendations are daunting and include competing organizational priorities as well as insufficiencies in information, leadership, understanding of value propositions, funding, staffing, and time—and not just within professional societies but industry and academia as well.

It seems a heavy lift. Still, like paradise, knowing where we want to be is the first step toward getting there.

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* National Academy of Engineering 2019. *Engineering Societies' Activities in Helping to Align the Needs and Goals of Industry and Academia: Proceedings of a Workshop in Brief*. Washington, D.C.: The National Academies Press. <https://doi.org/10.17226/25445>.