

Editorial

There is much concern nowadays about the future of manpower supply for the engineering professions. On the one hand the number of graduates is not covering the needs of industry on the other hand the attrition rates of engineering students, i.e. those who begin but do not finish their studies is disproportionately large. The paper by Haag, Hubele, Garcia and McBeath in this issue deals with the latter problem. Students were surveyed who left engineering studies and moved to other faculties. Some of the reasons why they switched were peculiar to the environment of the university, in this case Arizona State University, others were common to findings in many representative institutions. Prominent complaints are poor advising and poor coordination of advising information as well as the well known lack of school preparation in physics and math. A needed improvement in the structure of engineering classes and presentation is called for, as exemplified by the aim to personalize mass classes, an interesting experiment in this practice was reported by Williams and Mistree in Volume 22 number 6 (2006). Connected to the attrition dilemma is the requirement of initiating school curricula in engineering education. Theodore Lewis in his paper 'Engineering Education in Schools' examines this question. He pleads for the establishment of engineering education as an acknowledged subject besides the more traditional physics, math, biology and technology. The barriers for this move are ingrained in the absence of properly trained faculty, and the competition for subject recognition. The question remains whether the stakes for engineering education should be claimed by technology, or science, but surely we need more engineers as school teachers.

This issue includes the second part of the Pre-college special sections; the first was published in Volume 23 number 1. It is to be remarked that all papers in this section come from US sources. There is most likely similar publishable material available in other countries-but it is the usual story that these are not reported, which sadly means that the wheels are reinvented every time when such schemes are launched. My thanks are due to the guest editor team of Larry Genalo, Steve Watkins and Hans Peter Christensen for selecting, reviewing and guiding authors through revisions to the final accepted papers.

Michael Wald