Editorial

Research risk, funding etc

One of the key elements and indeed distinguishing marks of true research is that it has a finite element of risk - a certain degree of unpredictability. Instead of becoming overly concerned with accurately measured data that deviates from one's pet theory or hypothesis, a true researcher should take this as a challenge and an opportunity to probe further and possibly come up with a more appropriate theory or model. Increasingly granting agencies tend to discourage such proposal by asking referees about the feasibility of accomplishing the proposed research objectives. Clearly, one must play it safe and try to propose projects with predictable outcomes. Even, journal reviewers are alarmed by results or theory that deviates from the mainstream. A higher bar is applied in assessing such papers and proposals.

I believe that this attitude discouraging cutting-edge research which must venture where no one has been before, by definition. Another discouraging factor is the reduced level of weight given to excellence in research per se, regardless of the commercial value of the area in the near or medium term. Especially in engineering disciplines, areas selected for extensive funding-often at the cost of other viable but not-so-trendy areas- receive lion's share of the total funding. This can cause over-budgeting of projects and a noncompetitive environment. Even mediocre projects risk being funded, while excellent projects in other areas are ignored. With globalization and flattening of the world fewer areas and fewer researchers in pre-selected areas tend to get funds at the same time. Since most research proceeds in a serial rather than parallel fashion, clearly there is a great risk of duplication of effort. The benefit of standing over the shoulders of giants- as Newton is quoted to have said- is lost in such a scenario. It is clear that a higher level of R&D support is warranted in certain areas but whether it is excessive is not known until it is too late. The jury is still out on this.

In academia there is a tendency to rush ahead of the flock in a number of ways. One is to update the curriculum regularly. This is a good thing. Input from alumni and their employers is invaluable in identifying strengths and weaknesses in the program. It is essential to keep in curriculum what industry needs and will need for a decade or so.. This way the graduates can be useful and productive for industry with minimal further training or supervision. Academia-industry interaction is necessary not only for R&D but also for meeting the educational objectives.

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