

# **THE FUTURE OF REACTOR PHYSICS EDUCATION IN OUR UNIVERSITIES**

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## **ABSTRACT**

As we progress into the future many changes will occur, especially in our educational system. In order to take full advantage of technology in the classroom many would argue that we need to actively pursue innovations in the way we present subjects and the tools we use to educate our students. However, we need to be more concerned about filling our classrooms than changing our practices. If we have no students to teach our innovations in teaching are worthless.

The 1970's were a time of great optimism for the nuclear industry. Universities were turning out qualified engineers at a record pace. Westinghouse and other vendors were adding new employees by the dozen. Plants were being ordered and started up on a regular basis to produce a continuously increasing job market for students in Nuclear Engineering.

Today the boom is long gone and the industry faces many problems that threaten its existence. Spent fuel storage, license renewal, and nonexistent capital growth are taking their toll on an already weakened industry. The problem of most concern to the education system is a sheer lack of students. Departments across the country are faced with shrinking enrollments, being absorbed into other disciplines, or being shutdown completely.

The future of reactor physics education lies in our ability to recruit students into our programs. Without a student body we cannot begin to experiment with new teaching techniques and technology. We must determine a way to attract students and keep them interested. A number of steps can be taken to do this, three of which will be outlined herein. Initially we must educate prospective students about what a nuclear engineer does. This would include negating common misconceptions and shedding light on a field which is a bit hazy to most people. Secondly, once a student makes the commitment, keep them interested. This can be done by involving undergraduates in meaningful research projects early in their academic careers. Finally, show them what the job market really looks like. Students want to know that their investment is going to pay off in the end by giving them an exciting career and a stable income. This can be achieved by involving members of industry and having them host seminars, and on-campus recruiting. By exposing students to employers eager to hire them they will build a sense of loyalty and a motivation to work in an industry that often receives poor reviews about its future.

It is important to remember that securing a student body should be the number one priority in the next century for reactor physics education. We must not focus on how to change our current teaching methods, but how to keep our current enrollment levels and how to push those levels upward. We must stimulate interest in our discipline and combat negative views about the future of the industry if we want to survive in the 21<sup>st</sup> century.