Survey of First Year Physics Undergraduates

The Education Group of the IOPI in May 2009 carried out a survey of first year undergraduates on motivation and key influencing factors on their decision to study physics. The survey of 199 students across six of the Irish institutions, specifically looked at areas such as previous practical experience, prior engagement with colleges, national outreach activities, the influence of family, friends and teachers as well as the student’s interest in the subject.

While 96% of students had some practical physics experience prior to college, there was a wide variation in the level of this with only just over half getting this at least every 2 weeks.

![Level of school practical experience chart]

- Little or no exp physics: 3%
- Mostly teacher/lecturer: 14%
- by students at least every 2 weeks: 20%
- by students at least once a month: 5%
- by students 2-4 times per school year: 2%
- No response on times given: 56%
It was clear that previous experience with physics was a very strong determining factor and particularly the influence of their physics teacher in the decision to take physics at third level.

For those physicists who have put in considerable time and effort visiting schools, it may be gratifying to note that almost of the respondents who had had such a talk found it very influential and equally so a visit to the college’s physics department. Around a quarter of all the respondents had had such experiences.
However, probably the most important aspect was the student's own inherent interest in the subject with many citing areas such as the 'big' questions in cosmology and particle physics as being strong drivers, together with the new technologies which are emerging. It was noteworthy that many of the respondents were science fiction fans and in asking the question, 'what would encourage other students to take physics' most suggested more outreach activities with practical and interesting experiments, together with clear information on courses and careers.

The analysis of the survey is not yet complete but will be followed up with the individual colleges to assist with their advertising programmes. In addition it is planned that an annual on-line survey will be made available to students earlier in the academic year.

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