

**APS/AAPT Physics Department Chairs Conference,
June 4-6, 2004, College Park, Maryland.**

Notes of Breakout Group discussion on
"Concerns of small departments".
Saturday, June 5, 2004, 3:30 - 4:30 p.m.

Discussion leader: Elizabeth McCormack, Bryn Mawr College.
Note taker: Ruprecht Machleidt, University of Idaho.

How to retain physics majors during the freshman and sophomore years? Some departments have their freshman take a seminar style one-credit class or a regular course about fundamentals of modern physics or that sort of thing. In any case, the purpose is to expose students early to some of the excitement of modern physics while they have to do their footwork through (boring) introductory mechanics and E&M. It was also pointed out that a freshman class/seminar or physics majors helps them getting to know each other. A great factor can also be the SPS. The faculty advisor for the SPS should guarantee the continuity of the SPS. After all, the SPS presidents come and go every year; there are SPS presidents with a lot of initiative and there also lame ducks. The faculty advisor has to bridge those lame duck periods. An SPS picnic early in the fall semester may be a great opportunity for recruiting the physics majors early into the SPS.

40 years ago, the best students would go into physics. Unfortunately, this is not true anymore. We need to do something to attract the good students. One way is to have the best instructors in the department teach the introductory physics courses. An attractive presentation of physics may cause students from math, engineering, and the other sciences switch their majors to physics.

Small departments are sometimes asked by the upper administration to justify the existence of their programs. Also there seems to be a perception in many college administrations that a program has to graduate at least ten majors per year to be viable. Department chairs who are faced with these challenges are advised to turn to the APS and ask for the statistics of how many Physics majors graduate in the various Physics departments in the country. As it turns out, the average is substantially below ten. These statistical data may help refute the administration's arguments.

To enhance the profile of a Physics department at a liberal arts college it is highly advisable to offer a very attractive general physics course (and maybe another one in general astronomy) for non-science majors. If done right, such a class has the potential to become the most popular core curriculum class across campus.