Preliminary Analysis of Female Physics Students at the Greater National University of San Marcos, Peru

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The number of women who enter the Physics Department of the Greater National University of San Marcos (GNUSM) at the undergraduate and graduate levels is disproportionately low compared with the incoming male student population—and the number of women who graduate in physics is even more disproportionately low. Women transfer to other fields of study for various reasons: work, family problems, or simply because physics does not appear to be the career they want. In facing this situation, we need strategies to increase the participation of women in physics. Why are there so few women interested in being degree candidates? We would have to ask ourselves if men and women who are interested in science have the same job opportunities after graduation.

Our scientific course of study should be oriented toward research and toward solving society’s problems. By working in an interdisciplinary way we can help improve this situation, which begins in high-school and later is reflected in aspirations for careers that promise high incomes.

A working plan should address the possible causes of the lack of interest in studying and continuing in physics:

- No plan for the national development of science education in the teaching curriculum.
- Lack of financial support for research.
- Discrimination.

Therefore, it is part of our curriculum to promote and cultivate basic ideas that science as a whole is fundamental for human development, which allows us to create, think, and experience in our everyday tasks.

We present here a preliminary report of students enrolling for graduate studies in the physics program of the Greater National University of San Marcos. In Figure 1 (left) we observe that the year with the greatest number of entering female graduate students in physics was 1999, with five students, but that none of them finished their studies (right).

We can observe in the graph showing female bachelor’s-degree graduates in physics (Figure 2) that there is a growth of approximately 25% in the year 2000, a decrease in the following 3 years, but an increase once again in the year 2004. Figure 3 shows that the number of female graduate students is less then male graduate students.

In the physics program there is not one woman with a master’s degree. Peru’s reality is different, because opportunities to conduct research are so few. There are many factors that create barriers to continuing with research and with our careers as physicists. For instance, in Peru, when one finishes their undergraduate degree, one must...
immediately find a job in order to get by financially. One could find employment at the university as an adjunct professor, or at another academic institution. Every year the professional responsibilities in academia increase, and this creates a conflict with having a family. However, the desire to have a family should not be a limiting factor for women’s participation in physics. The role of being a wife and the responsibilities of motherhood take a lot of discipline but are not impossible, even while one is conducting research.

Another problem is the lack of financial support, since a major time commitment is required to prepare a thesis. An ideal solution would be to pay students for doing research, so that pursuing research does not adversely affect their living conditions. Some of this type of financing has occurred recently, and if continued and expanded, it could be an option for many so that more young individuals can have greater opportunities.

It must be emphasized that since 1998 female physicists have attained graduate degrees in a foreign country, specifically Brazil; in 2001 three students went abroad for graduate studies. We should mention that in our program we have only one specialist with a PhD.

One problem that we must confront and solve: to find and let students know about research centers and scholarships that would allow them to continue their graduate studies abroad and have a firm commitment to come back to Peru to participate in research groups and teams.

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REFERENCE