

Why ISU Physics is Great!

Money. We have lots of it, and not enough students to spend it on. Our research budget for 2007 was approximately \$8,000,000. This is more than any other ISU department, and more than most of the colleges at ISU. We have averaged between five and six million in funding for the last five years.

All of our physics majors are given a scholarship. We have an endowment we call the Meadow's Fund, named after a generous Alum. Every year, we take the earnings from this fund and divide it up among the physics majors that apply. So far, no applications have been turned down. Awards depend on earnings and the number of applicants. The awards have been as high as \$1,200 per year. This last year, the awards were \$1000 each.

We employ all of our undergraduate students that wish to in research. Many of our students have graduated with publications in scientific journals. This looks great on resumes.

We have around 100 undergraduate majors and around 70 graduate students. Class sizes are small, with 4 to 12 students per class typical for non-introductory classes. The student to teacher ratio is smaller than almost any other ISU department.

None of our classes are taught by graduate students.

We have the largest physics program in Idaho, and the largest and best funded program in nuclear physics in the United States.

We have more laboratory space than any other ISU department. We have more toys, too. To be specific, we have more working particle accelerators than any other educational institution in the world. We need lots of undergraduate students to help run the darn things.

We have had a 100% job placement record for our graduates (B.A., B.S., M.A., M.N.S., M.S., and Ph.D.) For the last five years.

We have the first accredited program in Health Physics in the world, and the largest such program in the U.S.

All of our faculty are experimental physicists. Our focus is on applied nuclear physics. We really like students with mechanical and experimental skills and experience, such as power tool use, welding, machining and electrical.

Highlights of the ISU Department of Physics

The Idaho State University Department of Physics is actively engaged in a variety of cutting edge research pursuits, all of which focus on the use of experimental nuclear physics techniques to address problems in both fundamental and applied science. Approximately 85% of the regular, tenure track faculty in the department have external funding, averaging about \$400 thousand per faculty member per year and resulting in a prolific record of scientific publications. Major efforts include:

- fundamental nuclear and particle physics
- nuclear reactor fuel cycle physics
- nuclear non-proliferation and homeland security
- accelerator applications
- radiation effects in materials and devices
- biology
- health physics

The ISU Department of Physics greatly benefits from its strong association with the Idaho Accelerator Center (IAC), where much of its research is carried out. The IAC is a unique facility possessing more research accelerators than any other university in the world. These include eight electron linear accelerators ranging in energy from 6 to 30 MeV, a 2 MeV positive-ion Van de Graaff accelerator, and a pulsed-power 10 MeV induction accelerator. Additional scientific laboratories can be found at the Pocatello airport where the technology to inspect cargo containers for the presence of nuclear weapons related materials is being developed, as well as in the physics building where there are facilities for low-level radionuclide analysis for environmental monitoring. The Department enjoys strong research ties with other departments at ISU, (chemistry and biology, in particular), as well as with external partners including the Idaho National Laboratory, Jefferson Lab, Sandia and Los Alamos National Labs, and Lawrence Livermore and Lawrence Berkeley National Laboratories.

An important mission of the ISU Department of Physics is the training of the next generation of scientists, technicians, and educators. The Department has a strong undergraduate program, with about 90 majors currently working toward their Associate Degrees in physics and health physics, Bachelor of Arts degrees in physics and health physics. The graduate program is perhaps the largest graduate nuclear science program in the nation, with over 70 students working towards M.S., M.N.S. and Ph.D. degrees in applied physics and health physics. The research activities of our faculty provide outstanding preparation for our students as they enter the job market. Our graduates are regularly employed in technical positions at national laboratories and industry, in education as junior and senior high school teachers, and in bio-science and applied physics careers.

The ISU Department of Physics is a dynamic, active, and growing department. It has pursued a deliberate strategy of focusing on areas of experimental nuclear physics which are of great intellectual interest and provide good opportunities for research funding and first-rate educational opportunities for our students.