



The Printed *Physics* *Astronomy* *Geology*

A Newsletter of the IUSB
Department of Physics & Astronomy

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A Favor to Ask of Our Alumni...

Sometime during the last academic year Steve Shore, the current chair of IUSB's Dept. of Physics and Astronomy, asked if I'd be willing to serve as the department's CPDL (Career and Professional Development Liaison). I was happy to accept. The CPDL program reflects an effort on the part of the American Physical Society (APS) to better inform both students and faculty members about career opportunities for physics majors.

Prospective physics majors often ask what sorts of job opportunities exist for holders of a B.S. or B.A. in physics. In fact, the variety of careers pursued by physics majors is virtually unlimited; but such a vague (though accurate!) answer seldom satisfies. And here's where you, our IUSB physics alumni, can help. What jobs and careers have you pursued since finishing your studies at IUSB? Can you identify ways in which the skills and knowledge you gained by studying physics have helped you in your career? This is the sort of information our prospective majors want and need. Send it to me at the address below (or by email at jhinnefeld@iusb.edu) and I'll make sure they get it!

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A Decade of Change

It's been about ten years since Prof. Don Snyder sent out the last of his Physics Newsletters, and those ten years have seen tremendous change in IUSB's Department of Physics and Astronomy. After several years in remission Prof. Snyder's lymphoma returned in the fall of 1991, and he passed away in early 1992, leaving Profs. Bruce Zimmerman and Jerry Hinnefeld, a nuclear physicist who had just joined the department in 1991, as the only permanent physics faculty. Prof. Zimmerman served as acting chair of the department through the 1992-93 academic year, and chaired the search that culminated in the hiring of Prof. Steve Shore, an astrophysicist with an international reputation, as department chair beginning in the fall of 1993. Fall of 1994 saw the arrival of Prof. Monika Lynker, a string theorist, as a new member of the physics faculty. Dan Cohen, who had held a faculty appointment in physics since arriving at IUSB as Chancellor in 1987, took up an active role in the fall of 1996, after stepping down from his administrative position. Prof. Zimmerman retired — and was awarded emeritus faculty status — in 1997, leaving us with our current full-time faculty of Profs. Shore, Lynker, Hinnefeld, and Cohen. Fortunately, Prof. Zimmerman stills comes in to the department regularly. And then there's Ray Nymberg, our full-time Chief Technician since 1999, who had served part-time in that role since his daughter Patricia's (B.A. '91) days as a physics major here.

There have been other changes, too, besides those in personnel. Ten years ago the renovation of the old library space in Northside Hall, which included the creation of new laboratory, office, and research space for our department, was still under way. Our office space in the basement was rather secluded, though, and unsatisfactory in other ways, too; so in early 1998 Prof. Shore managed to get our faculty offices moved to the 3rd floor of Northside, into space that had been occupied by Psychology before their move to the new Wiekamp Hall. In addition to offices for our four full-time faculty, two adjunct faculty offices, an office for the Physics/Chemistry department secretary (currently Ms. Lee Scott), and a mail room that also houses two research computers, this 3rd floor space includes the W. Bruce Zimmerman Reading Room (actually two adjoining rooms), a hangout for physics majors and other students.

Two more changes, among the many that have taken place in the last decade, must also be mentioned here. In 1997 the Society of Physics Students (SPS) chartered a new chapter at IUSB; and in 1999 the IU Board of Trustees and the Indiana Commission on Higher Education approved the expansion of our degree offerings to include the B.S. degree in physics. These are auspicious events for the department, and they give us reason to be very excited about our next decade!

Summer Research Opportunities

Looking for a *really* interesting summer job? Thanks to a grant from the National Science Foundation (NSF), Prof. Hinnefeld is able to offer a student research stipend of \$3000 for ten weeks of research in nuclear physics under his supervision this summer. Contact Prof. Hinnefeld (jhinnefeld@iusb.edu) for more details. If you're looking for a similar experience, but with a change of scenery, there are a number of sites around the country at which the NSF sponsors Research Experiences for Undergraduates (REU). Flyers describing several of these programs are posted in the department hallway. For a complete list of sites, follow the link to Summer Research Positions near the bottom of the IUSB physics web page.

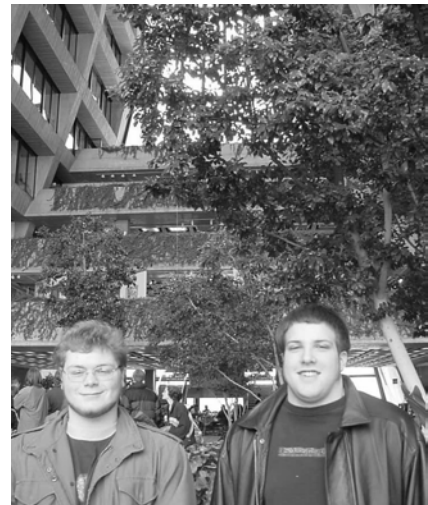
B.S. Degree Added

IUSB now offers both Bachelor of Arts (B.A.) and Bachelor of Science (B.S.) degrees in physics. The B.S. is distinguished from the B.A. degree by its greater emphasis on the major and cognate courses (e.g. mathematics) and less extensive distribution requirements. The B.S. degree requires at least 35 credit hours of physics courses applicable to the major, as well as 24 credit hours of mathematics at the level of calculus and above. The B.A. now requires at least 30 credit hours of physics, along with the completion of the general education requirements established by the College of Liberal Arts and Sciences for all its B.A. degrees. Complete degree requirements can be found in the IUSB Bulletin, available online at <http://www.iusb.edu/~acadaff/Bull/cover.html>.

SPS News

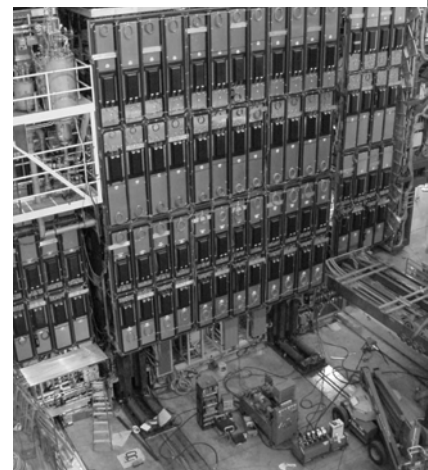


Members of IUSB's SPS chapter joined some Notre Dame physics students for a tour of Fermilab in early February. The tour included views of the lab facility from the 14th floor of Wilson Hall; a look at the Cockroft-Walton generator and linac, the first stages of the acceleration process; a lunch talk on antiproton production and storage by Fermilab staff physicist (and South Bend native) Paul Derwent; a look at the Mini-Boone (Booster Neutrino Experiment) data room; and a tour of the Dzero detector facility. For more information about SPS, visit the chapter's web page at <http://www.iusb.edu/~physclub>.



Above: Scott Marley and Scott Michael in the atrium of Wilson Hall.

Below: The D0 detector.



Fall Offerings Feature Experiment with IU Southeast

The physics section of IUSB's Fall 2001 Schedule of Classes will include one course that will actually be taught from New Albany. IU Southeast's Prof. Kyle Forinash will be offering PHYS P310, *Environmental Physics*, by two-way video to students in South Bend and possibly one other site, in addition to his students at IUS. This experiment is part of an initiative to explore the feasibility of sharing faculty expertise among IU's regional campuses. For more information, contact Prof. Forinash directly (kforinas@ius.edu) or Jerry Hinnefeld at IUSB (jhinnefeld@iusb.edu).

Other Fall 2001 offerings include:

- PHYS P100 — Physics in the Modern World (5 cr.)
- PHYS P120 — Energy and Technology (3 cr.)
- PHYS P151 — Excursions into Physics (3 cr.)
- PHYS P201 — General Physics 1 (5 cr.); algebra-based intro. physics
- PHYS P202 — General Physics 2 (5 cr.);
- PHYS P221 — Physics 1 (5 cr.); calculus-based intro. physics
- PHYS P281 — Solid State Electronics (3 cr.)
- PHYS P301 — Physics 3 (3 cr.)
- PHYS P309 — Modern Physics Laboratory (2 cr.)
- PHYS P340 — Thermodynamics and Statistical Mechanics (3 cr.)

- AST A100 — The Solar System (3 cr.)
- AST A105 — Stars and Galaxies (3 cr.)

- GEOL G111 — Physical Geology (3 cr.)
- GEOL G112 — Historical Geology (3 cr.)