



# The Printed *Physics* *Astronomy* *Geology*

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Department of Physics & Astronomy

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## *Physics Awards at CLAS Honors Night*

Four current and one future IUSB physics majors were honored at the College of Liberal Arts and Sciences Honors Night ceremony on May 1. CTS Continuing Student Scholarships were awarded to **Josh Eby**, **Cale Harnish**, **Nathan Smith**, and **Gregory Warrell**. Nathan also received a Gerkin Memorial Scholarship, and Josh received the Departmental Excellence Award in Physics. While she could not attend the Honors Night ceremony, **Kelsey Fine** of LaPorte High School was announced as the recipient of a CTS Freshman Scholarship in Physics.

Congratulations to these award-winning IUSB physics majors!

## *Tenure and Promotion for Dr. Schimmrigk*

By action of the IU Board of Trustees at their May meeting, Dr. **Rolf Schimmrigk** has been promoted to the rank of Associate Professor, with tenure. Dr. Schimmrigk joined the IUSB faculty in 2005. He earned his Ph.D. at the University of Texas at Austin, where as graduate students he and Dr. Monika Lynker began their long-standing collaboration in string theory. At IUSB Dr. Schimmrigk has made his mark with a series of theoretical courses for physics majors, including PHYS-P473 Introduction to String Theory in Fall 2006.

## *Record Number of Physics Graduates*

Five IUSB students — **Ryan Bauernfeind**, **Nana Boateng**, **Noah Cooper**, **Brian Godfrey**, and **Sandy Kentner** — were awarded bachelor's degrees in physics this May. This ties the department record set in 1985; and if you include **Mike Vorenkamp**, who earned his B.S. in physics education, this year's total stands alone. Maybe not for long, though — next year should see another big graduating class of physics majors. There were also two physics minors among this year's graduates, **Michele Ide** and **Brittany Kish**.

The big numbers are also showing up in the upper-level majors' courses that we offer on a two-year cycle. For example, there were nineteen students in PHYS-P324 Physics 4 in Spring 2010. These strong enrollments are a sign of the department's health, but they will also present a real challenge next spring, when we expect about 20 students to enroll in our upper-level laboratory course, PHYS-P309 Modern Physics Laboratory. This is the sort of problem we like to have, though!

We managed to grab four of the five physics-related graduates who participated in Commencement exercises for a photo with two of the department's faculty members. Pictured below, left to right, are Brian, Dr. Henry Scott, Ryan, Sandy, Dr. Jerry Hinnefeld, and Brittany. Unfortunately, we weren't able to locate Mike for the photograph.



## ***\$420,000 NSF Grant Will Fund Dr. Levine's Dark Matter Research***

Dr. **Ilan Levine** learned in early June that the National Science Foundation has awarded him a 3-year, \$420,000 grant to continue his work on the detection of dark matter, one of the greatest current challenges in experimental astrophysics. Dr. Levine and his group, mostly IUSB undergraduate students, are collaborators in two dark matter experiments — PICASSO, located at SNOLAB in Sudbury, Ontario, and COUPP, located at Fermilab, outside Chicago. Both experiments utilize acoustic detection of events in the superheated fluids of bubble chambers, and Dr. Levine's group has been instrumental in developing and assembling the acoustic sensors and associated circuitry that make these experiments possible. Among other things, the new grant will allow Dr. Levine to continue to provide financial support for students who participate with him in this research. Students interested in working with Dr. Levine should contact him at 520-5544, or by email at [ilevine@iusb.edu](mailto:ilevine@iusb.edu).

## ***Physics Majors Selected for REU Programs, SMART Fellowship***

Three IUSB physics majors were selected to participate in very competitive undergraduate research programs during the summer of 2009. **Nate Vander Werf** received an IUSB SMART Summer Fellowship for work in theoretical physics under the direction of Dr. Rolf Schimmrigk. **Gregory Warrell** and **Josh Eby** are spending their summer as participants in NSF-funded Research Experiences for Undergraduates (REU) programs at Indiana University Bloomington and the University of Washington (Seattle), respectively. Gregory is carrying out research in medical physics at the Midwest Proton Radiotherapy Institute in Bloomington, while Josh is doing neutrino physics at U. Washington. We look forward to talks about their research when they return to IUSB in the fall.

## ***PHYS-S106 Continues to Bring in Speakers***

The introductory seminar course created by the department in 2007 continued in 2008-2009. In addition to talks by current physics faculty members, this course features occasional presentations by outside speakers. In Fall 2008 two of the Thursday afternoon class meetings were replaced by evening public lectures, one by Steve Shore (formerly of IUSB and now at the U. of Pisa) and another, on the Large Hadron Collider, by Prof. Randy Ruchti of Notre Dame. Dr. Artemis Spyrou of the National Superconducting Cyclotron Laboratory also presented.

External speakers in the Spring 2009 semester were Dr. Carla Fröhlich of the University of Chicago and Prof. Mike Niemier of Notre Dame.

### ***Contact us!***

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## ***Dr. Scott Is Department's Latest FACET Inductee***

Dr. Henry Scott became the third physics department inductee in the last five years into IU's Faculty Colloquium on Excellence in Teaching (FACET), IU's all-university teaching "honor society." Membership in FACET is highly selective — only 17 faculty members were inducted in 2009, from all the IU campuses. Dr. Scott's selection is a recognition of his excellence in teaching, and the fact that half of the department's faculty members have now achieved this distinction says a great deal about the quality of teaching in the department.

Dr. Scott's formal induction took place at the annual FACET retreat, held this year at Pokagon State Park in northeast Indiana. Dr. Hinnefeld also attended.



Dr. Scott at his FACET induction, with FACET Director David Malik (left) and IUSB Assoc. Vice Chancellor for Academic Affairs, John McIntosh (right).

## ***SPS Hosts Presentations on Hydropower in S.B.***

The IUSB chapter of the Society of Physics Students (SPS) sponsored presentations in March about plans for hydroelectric power production in downtown South Bend. Kathleen Pettitjean, an IUSB grad student and local environmental activist, and Gary Gilot, Director of Public Works for the City of South Bend, spoke about plans to install hydroelectric turbines at the dam in downtown South Bend. Kudos to **Cale Harnish** for providing the initial idea, and to SPS Pres. **Scotty Myers** for pulling it off.