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Department of Physics & Astronomy

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Dr. Lynker in FACET

Dr. Monika Lynker, Associate Professor of Physics, has been named to FACET, IU's Faculty Colloquium on Excellence in Teaching. Dr. Lynker is the first member of our department to receive this honor, and one of only twenty-three faculty members from all IU campuses to be selected to FACET this year. FACET was established as an IU Presidential Initiative in 1989 to promote and sustain excellence in teaching.

Dr. Ha Now at Towson

We are happy to report that Dr. Phuoc Ha, a visiting assistant professor of physics at IUSB from 2003 to 2005, is now in a tenure-track faculty position at Towson University, in Baltimore. Dr. Ha taught both introductory and upper level courses at IUSB, including the department's first-ever offering of PHYS-P410 Computational Physics. In addition to his Ph.D. in theoretical physics, Dr. Ha holds a M.S. in electrical engineering. He was a highly qualified and effective instructor of our Digital Electronics course, PHYS-P303.

New Adjunct Lecturer Is a Familiar Face

Jon Darnel (BS '02) has returned to the department as an adjunct lecturer in physics. Jon, who earned a M.S. in physics from the University of Wyoming in 2005, is teaching a lab section of PHYS-P221 Physics 1. Welcome back, Jon!

Rolf Schimmrigk Joins Department

Dr. Rolf Schimmrigk joined the faculty of IUSB as an assistant professor of physics at the beginning of the Fall 2005 semester. Dr. Schimmrigk, a string theorist who received his Ph.D. in physics from the University of Texas at Austin in 1989, comes to IUSB from a tenure-track position at Kennesaw State University, in suburban Atlanta. He has been a research collaborator of Dr. Monika Lynker since they were both graduate students at Texas, where they and their advisor, Philip Candelas, were co-discoverers, with Brian Greene and Ronen Plesser, of the mirror symmetry of string theory. Even at a distance, Drs. Lynker and Schimmrigk have had a productive professional collaboration, publishing six papers together over the last ten years. Their collaboration will no doubt be even more productive now that they are in the same department.

Dr. Schimmrigk was selected for an all-university research excellence award at KSU last year, and he was the recipient of the College of Sciences and Mathematics Distinguished Scholar Award there in 2003. In addition to his research awards, Dr. Schimmrigk has received high praise for his teaching at both KSU and Georgia Southwestern University. In the Fall 2005 semester he is teaching PHYS-P222 Physics 2 and PHYS-P321 Techniques of Theoretical Physics. Drs. Schimmrigk and Lynker are tentatively planning to offer an undergraduate course in string theory at IUSB in the 2006-2007 academic year, which will represent a truly unique opportunity for our physics majors.

IUSB Physics Alums Earn Ph.D.'s

Since the last issue of this newsletter (last September!) we have learned that three of our IUSB physics alumni have completed Ph.D. degrees in physics. Israel Owens (BA, '97) received his Ph.D. in physics from Dartmouth in June of 2004 for work on compact terahertz laser source development. Israel is now a post-doc with the Quantum Institute at Los Alamos National Laboratory. Shelly Leshner (BA, '99) received her Ph.D. in May of 2004 from the University of Kentucky, for work in experimental nuclear physics. Shelly is currently a post-doc at the Katholieke Universiteit Leuven, in Belgium, where she works on laser ionization, radioactive beams, and shape coexistence in the Pb region. In December she'll return to the U.S., taking up a post-doc position at the University of Richmond. Jason Daly (BA, '97) received his Ph.D. from Notre Dame in May of 2005, for work in nuclear astrophysics. Jason works now at the Center for Naval Analysis in Alexandria, Virginia. Congratulations to Israel, Shelly and Jason!

Students Presenting Results of Summer Research at Marquette, Argonne, Maui

Andrew Ratkiewicz and Savan Kharel will give talks on the research they did this past summer at an upcoming SPS zone meeting at Marquette University and at the 16th Annual Argonne Symposium for Undergraduates in Science, Engineering, and Mathematics. Savan received a SMART summer fellowship to support his work on a problem in string theory with Dr. Monika Lynker, while Andrew spent the summer as a participant in Michigan State's REU program, analyzing data from experiments performed with MoNA (the Modular Neutron Array) at MSU's National Superconducting Cyclotron Laboratory (NSCL). Andrew also presented his research in a poster session at the second



Andrew proudly sports his IUSB Physics t-shirt on the coast of Maui

joint meeting of the nuclear physicists of the American Physical Society and the Japanese Physical Society at Kapalua, Hawaii (Maui), as a participant in the NSF-sponsored Conference Experiences for Undergraduates (CEU) program. Andrew took a week off from his nuclear physics research in July to join Dr. Henry Scott for a geophysics experiment at Brookhaven National Laboratory.

World Year of Physics



The International Union of Pure and Applied Physics (IUPAP) has declared the year 2005 as the World Year of Physics, in celebration of the 100th anniversary of Albert Einstein's "miraculous year." In 1905 Einstein published three important papers, on special relativity, brownian motion, and the photoelectric effect. The goal of WYP 2005 is to raise the worldwide awareness of physics and physical science.

IUSB's Society of Physics (SPS) chapter marked WYP with a celebration of Einstein's birthday on March 14 of this year. Members of the club distributed WYP lapel pins, diffraction-grating glasses, balloons, and copies of a special WYP edition of Scientific American to students and others on the first floor of Northside Hall. Students, faculty, and staff of the department gathered that afternoon for cake in the Northside 3rd floor lounge.

The department is also marking WYP with an Einstein "quote-of-the-week" on the department web page. Visit www.iusb.edu/~iusbphys to see this week's quote and all the others from the beginning of the year.

CTS Scholarships

Congratulations to the following five students, who have been awarded CTS Continuing Student Scholarships for the 2005-06 academic year: Savan Kharel, Rachel McKenzie, Andrew Ratkiewicz, Tim Salvador, and Luke Sawle. The CTS Scholarships in Physics were established by a gift from the CTS Corporation Foundation, of Elkhart.

Spring 2006 Courses Include Astrophysics

Upper-level physics courses to be offered in the Spring 2006 semester include PHYS P303 - Digital Electronics, PHYS P309 - Modern Physics Laboratory, PHYS P340 - Thermodynamics and Statistical Mechanics, and AST A453 Topical Astrophysics. PHYS P309 and PHYS P340, which are both required for the professional track of the BS in physics, are offered on a two-year cycle, so be sure to sign up for these courses in the spring if you intend to graduate with a physics major (professional track) before May 2008 (and if you have satisfied the prerequisite, PHYS P323).

AST A453, which will be team-taught by Drs. Lynker, Levine, Scott, Hinnefeld, and Schimmgrigk, will include material on dark matter, nucleosynthesis, the solar system, and cosmology, areas in which the research of our faculty touches on astrophysics.

IUSB in Physics Today

The "Issues and Events" section of the March 2005 issue of *Physics Today* leads off with an article about the construction of MoNA, the **Modular Neutron Array**. IU South Bend was one of eight primarily undergraduate institutions that teamed with Michigan State and Florida State Universities to construct MoNA for the National Superconducting Cyclotron Laboratory at MSU. Physics majors Scott Marley and Jim Evans assembled and tested one of nine layers of the array in the summer of 2002, under the direction of Dr. Jerry Hinnefeld.

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