College of Arts and Sciences
University at Buffalo The State University of New York

Interactions

The Newsletter of the UB Department of Physics

Volume 1, Issue 1 Spring 2008

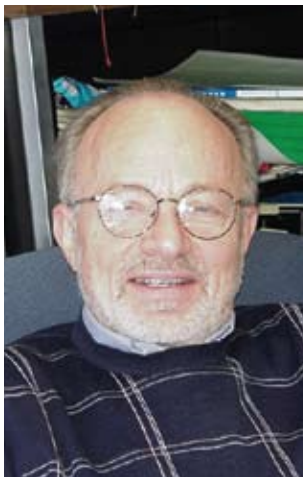


PHOTO: Pat Meider

Dear alumni and friends,

Welcome to the first issue of Interactions, our semiannual newsletter. In this and other letters we will try to keep you abreast of significant developments within the Physics Department. We hope you will find this of interest.

If you have visited recently the Department's web site, www.physics.buffalo.edu, you will have noted the substantial changes that have taken place over the last few years. The Department has grown to over 30 faculty and we have established new research groups in areas of cosmology, high energy and biophysics. This, along with our traditional strength in condensed matter, gives our graduate students a broad spectrum of research topics. Our young faculty has been particularly successful in obtaining research funding. Five have received prestigious five-year CAREER Awards from the National Science Foundation. This is highlighted in one of the feature articles in this letter.

The increase in faculty has allowed us to increase our outreach activities. These span the spectrum from summer activities for high school students and high school teachers to the installation of a permanent set of exhibits in Fronczak Hall. The Physics and Arts Exhibition opened in May of 2006. It was realized in collaboration with the Department of Visual Studies. Some of the installations are artistic, others are functional and interactive. A centerpiece in the exhibit is a Foucault pendulum which graces the entrance foyer of Fronczak Hall. We are very grateful to the many alumni whose contributions have made this exhibit possible and continue to contribute towards the development of new installations.

Our graduate and undergraduate students have access to yearly financial support through two endowments which have been established by, or in honor of, former alumni: the Silvestro and the Sekula Scholarships. We have also benefited from donations by the Rustgi family who has funded an annual lecture by distinguished speakers, and, as well, established the Rustgi Professorship to recognize an outstanding member of our faculty. Needless to say, these, and other contributions, play an important role in our efforts to provide a stimulating environment to foster excellence in teaching and research at UB.

Although there is no alumni news in this first issue of Interactions, we hope that in the future you will send us information about your activities or anything of note which we can include in future publications. The Alumni list that we have at present can be found on the Department's web site. We appreciate your feedback and corrections. Updates should be emailed to Christine Gleason (cg57@buffalo.edu).

Best regards,

Francis M. Gasparini, Chair
UB Distinguished Professor of Physics

Banner: The Atom Corral sculpture in bronze is one of three art pieces located in Fronczak Hall as part of the permanent Physics and Arts Exhibition. This sculpture has been created by Prof. Reinhard Reitzenstein (Department of Visual Studies). It is an artistic representation of the electron probability cloud for a giant two-atom rubidium molecule. For more information about the exhibition please see page 4 of this letter.

Faculty in Focus

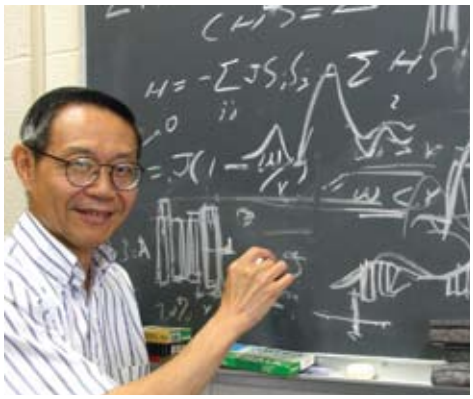
Studies of the Early Universe at UB

By Dr. Will Kinney

I study the structure and origin of the universe. While this might seem to be a subject more suited to a philosopher than a physicist, an array of amazing new techniques in astronomy have opened an unprecedented window onto the first moments of time. Robotic telescopes have made possible surveys which are in the process of creating the first three-dimensional maps of the universe on scales of billions of light years. Super-cold satellite detectors in orbits beyond the moon are making high-precision measurements of patterns in the faint glow of light left over from the Big Bang, called the Cosmic Microwave Background. Hidden in these patterns of light and matter are clues to the nature of the universe at its very beginning, in the very hot and very dense soup of the Big Bang. To understand the conditions near the Big Bang, we must understand physics at extreme energies. These conditions are studied in particle accelerators such as the Large Hadron Collider (LHC), which is beginning operation this year in Geneva, Switzerland. Motivated by particle physics, the leading theory of the very early universe is known as inflation. Inflation proposes that about a trillionth of a trillionth of a trillionth of a second after the beginning of time, the universe underwent a period of geometrically multiplying expansion, so rapid that "virtual" particles were ripped out of the quantum vacuum of empty space and pulled apart faster than the speed of light. These quantum fluctuations in the earliest moments of the universe left behind echoes which we can measure today in the patterns of galaxies in space, and in the light left over from the Big Bang. This new cosmology is a bridge between the Outer Space of stars and galaxies, and the Inner Space of fundamental particles and forces. We are learning amazing things about both.

The early universe was composed of a 'Primordial Soup' of fundamental particles. These conditions are recreated today in particle accelerators such as the Tevatron at Fermilab in Chicago, and the LHC at CERN in Switzerland.

Dr. Will Kinney, Assistant Professor of Physics, joined the Physics Department in 2003. Visit www.physics.buffalo.edu/whkinney for more information. PHOTO: Patty Wallace



Dr. John Ho, Interim Vice Provost for Graduate Education and Dean of the Graduate School, SUNY Distinguished Service Professor.
PHOTO: Patty Wallace

Dr. Jorge Jose, Vice President for Research and Professor of Physics

Dr. Bruce McCombe, Dean, College of Arts and Sciences, SUNY Distinguished Professor

Physics Faculty Serve in Key Administrative Positions

By Dr. Frank Gasparini

The Department of Physics is in an unusual situation whereby 3 of its faculty serve in UB administrative positions: John Ho is the Dean of the Graduate School and the Iterim Vice Provost for Graduate Education, Jorge Jose is Vice President for Research and Bruce McCombe is Dean of the College of Arts and Sciences. John Ho is a SUNY Distinguished Service Professor and has served previously for many years as Associate Dean in the former College of Natural Science and Mathematics and in the College of Arts and Sciences. Jorge Jose joined our Department as a full professor from Northeastern University when he was recruited for the VPR position. He oversees the whole research enterprise at UB. Bruce McCombe, SUNY Distinguished Professor, also served as Physics Chair, Dean of the Graduate School and Associate Dean in CAS before his present position. The College of Arts and Sciences is the largest college at UB comprising about 30 departments and about 500 faculty.

Banner:
The Physics Department is growing in size and diversity: Since 2003, 14 new faculty in condensed matter physics, biophysics, cosmology, and experimental high-energy physics joined the Physics Department: Dr. Will Kinney (2003, cosmology), Dr. Jong Han (2003, condensed matter theory). Dr. Hao Zeng (2004, condensed matter experiment) , Dr. Avto Kharchilava pictured above (2005, high-energy experiment) , Dr. Ia Iashvili, pictured above (2005, high-energy experiment), Dr. Peihong Zhang (2005, condensed matter theory), Dr. Igor Zutic (2005, condensed matter theory), Dr. Jorge Jose (2005, biophysics), Dr. Karl Ecklund (2006, high-energy experiment), Dr. Arnd Pralle (2006, biophysics), Dr. Sambandamurthy Ganapathy (2006, condensed matter experiment), Dr. Dejan Stojkovic (2007, cosmology), Dr. Wenjun Zheng (2007, biophysics), Dr. Gottfried Strasser (2007, optolectronic devices, semiconductors, nano science)
PHOTO: Patty Wallace

Rustgi Professorship

Professor Athos Petrou, first Moti Lal Rustgi Professor

By Dr. Frank Gasparini

Professor Moti Lal Rustgi, Professor of Physics at UB 1966-1992.

The Rustgi Professorship was established through a permanent endowment by the Rustgi family to honor the memory of our former colleague Professor Moti Lal Rustgi. Moti was a dedicated member of our department who over a period of 26 years made outstanding contributions through his research, teaching and service. His theoretical research ranged over many fields. The majority of his work was in nuclear and atomic physics, especially in the study of photodisintegration of the deuteron. In condensed matter he studied semiconductor quantum well structures, and in biophysics he examined absorption of RF radiation in biological systems. Moti taught the full range of graduate courses in the department and served for many years as Director of Graduate Studies. The appointment of one of our faculty to this title is recognition of outstanding scholarship and leadership.

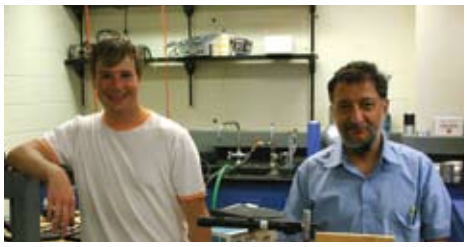
Professor Athos Petrou has been named as the first Rustgi Professor in recognition of his scholarly experimental work in the field of magnetic effects in semiconductors including the most recent work on spin injection from ferromagnetic materials into indium arsenide dots; and, for his constant and tireless involvement in the administration of the Physics Department, in its graduate program, and in its undergraduate teaching mission.

Athos' research has been funded over the years by over $4.9 M from federal agencies. He has trained 14 PhD students and 15 Masters students. He has also been recognized for the high quality of his teaching with the SUNY Chancellor's Award for Excellence in Teaching, and has been recognized by his peers by being elected Fellow of the American Physical Society. He has served for many years as Director of Graduate Studies, and has been principally responsible for the management and operation of the introductory physics laboratories.

Spintronics at UB

By Dr. Athos Petrou

Research in my group during the last ten years has concentrated on the emerging field of spintronics. In particular we study injection of spin-polarized carriers into semiconductor heterostructures. The devices for this work are provided by Drs. H. Luo and G. Strasser (UB), Dr. B.T. Jonker (Naval Research Lab) , and Dr. S. Holmes (Toshiba-UK). Various techniques such as photoluminescence, electroluminescence, optical pumping, and Hanle spectroscopies are employed. The experiments are carried out in the 5-300K temperature range in the presence of magnetic fields. The emphasis of this research is on devices known as "spin-LEDs". These are light emitting diodes which incorporate a magnetic contact that injects spin-polarized electrons into a p-i-n junction. Unpolarized holes are injected from the substrate. Electron and hole pairs recombine at the active site of the device emitting a photon. The recombination takes place either in a quantum well or in a layer of self-assembled quantum dots (QD) The degree of circular polarization of the emitted light is used to determine the spin polarization of the injected electrons. The purpose of the work is two-fold. The first objective is to optimize spin-LEDs as a method of practical and accurate measurement of the degree of spin polarization of the injected carriers. Several spin-LEDs have been explored as part of this effort. These include devices that utilize ZnMnSe, Fe, and CdCrSe magnetic contacts. The second objective is to use the spin-LEDs as research tools to investigate the spin-dependent properties of particular nanostructures. For example spin-LEDs that incorporate a layer of InAs QDs have been used to study the effect of spin imbalance in the QDs generated by the injected spin polarized electrons. This particular work is being carried out with theoretical support by Dr. P. Hawrylak and his co-workers (NRC-Canada).



Dr. Athos Petrou, Rustgi Professor of Physics, and Dr. Robert Mallory (now at Lockheed Martin, Syracuse), one of his former graduate students. PHOTO: Patty Wallace

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University at Buffalo
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Buffalo, NY 14260

Thanks to: CAS Development office for financial support

Banner:
The generosity of the Rustgi family extends to the Moti Lal Rustgi Memorial Lecture, a program that brings internationally regarded researchers to the UB campus. The lecture program was established in 1993, and since its inception, has included four Nobel Laureates. This year's lecture was held on April 4 by Dr. Lee Smolin (Perimeter Institute). Visit www.physics.buffalo.edu for more information. POSTER: Renee Ruffino

Physics & Arts

Opening of the Physics and Arts Exhibition in May 2006

By Dr. Doreen Wackeroth

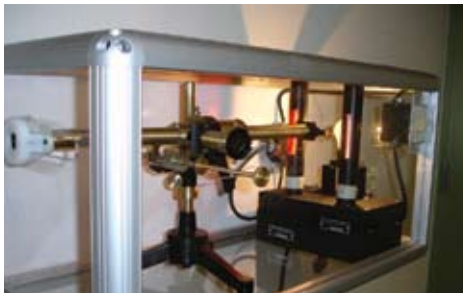
On the occasion of the International World Year of Physics 2005, the idea was born to install a permanent Physics and Arts Exhibition in Fronczak Hall, to help demystify physics, and pronounce its omnipresence in our modern world. A unique collaboration of UB physicists, Ulrich Baur, John Cerne, Andrea Markelz, Michael Ram, and Doreen Wackeroth, and UB artists, Gary Nickard and Reinhard Reitzenstein, designed and created the initial exhibit, consisting of a 3-story high Foucault pendulum, three interactive physics demonstrations, a camera obscura, a computer welcome kiosk with physics simulations, and six murals, as well as three artistic sculptures. Using art in a physics exhibition is a formidable vehicle to make this 'hard science' more accessible, less intimidating, and to reach wider audiences. It helps to engage the public in a dialog about physics in general and the research done at UB in particular in an inspiring and non-intimidating setting.

The Physics and Arts Exhibition was made possible by the generous support of our alumni. Sponsors include Dr. Ashok Kaveeshwar and Mrs. Tuti Kaveeshwar, the CAS Office of the Dean, Ohmcraft, angel.com, and the American Physical Society.

The creation and opening of the Physics and Arts Exhibition received wide coverage in the print and TV media. It has since successfully engaged our students when used as a teaching tool, attracted visitors from the local community and beyond, and will continue to be one of the most effective outreach activities for the Physics Department and the University. Information about the exhibition, its sponsors, and photographs documenting the creation of the installations can be found at www.physics.buffalo.edu/ubexpo. To inquire about guided tours please send email to ubexpo@gmail.com.

Michael Ryan, Vice Provost for Undergraduate Education, releases the cord to set the Foucault Pendulum in motion. The bob of the pendulum has been created in the shape of an atomic f-orbital by UB artist Reinhard Reitzenstein. PHOTO: Patty Wallace

John Cerne, Associate Professor of Physics, demonstrates the Foucault pendulum exhibit to a visitor at the exhibition opening. One of the murals created by Prof. Nickard and Renee Ruffino, Adjunct Professor of Communication Design and Creative Design Director for the CAS, can be seen in the background above the elevators. The model of the Foucault pendulum in the foreground was designed and built by Dr. Cerne and Kevin Cullinan (CAS Machine Shop). PHOTO: Patty Wallace



This interactive spectrometer exhibit challenges the visitor to identify the gas used in the light source by comparing the spectrum of lines with a displayed 'Spectrum Analysis' poster. Physics undergraduate students used a historic spectrometer in the design of this exhibit. All exhibits have been built by the CAS Machine Shop.

Prof. Gary Nickard and his sculpture *Tachyonic Antitelephone* displayed at the Physics and Arts Exhibition in the foyer of Fronczak Hall. PHOTO: Patty Wallace

Banner:
A Physics and Arts Exhibition in the making: in the foundry with Reinhard Reitzenstein. The foundry process is called lost wax casting in plaster investment molds. Bronze pours roughly at 2150 degrees Farenheit. The molds receive the molten bronze, which chills within about 30 minutes. When the molds are broken open the final form of the bronze bob for the Foucault Pendulum is revealed. For more pictures visit www.physics.buffalo.edu/ubexpo

Outreach

Physics and Arts Summer Institute

By Dr. Doreen Wackeroth

In Summer 2006, I inaugurated the Physics and Arts Summer Institute (PASI), which is the start of a regular summer project for high-school students, mentored by a high-school teacher, to continually add new elements to the permanent Physics and Arts Exhibition in Fronczak Hall. This project is sponsored by the Department of Physics and by the education and outreach portion of my National Science Foundation CAREER award. Under the direction of high school physics teacher Craig Uhrich (Depew High School) and a UB undergraduate physics major, Tim Szczykutowicz (PASI'06) and James O'Leary (PASI'07), students attending the Institute designed a new exhibit and explanatory materials to go with the exhibit, including posters, web pages and audio tours. In addition to learning about advanced physics topics, such as electromagnetism, special relativity and particle physics, the students also learn about the role of art in science and vice versa. Professor Gary Nickard and artist Patty Wallace both lectured at the Summer Institute. Patty Wallace's instructions in flash animation, for instance, provided the students with the necessary tools to develop artistic representations of scientific content. During PASI '06, the high-school students created an exhibit involving a spark chamber that detects cosmic rays, designed by Prof. Gary Nickard. The second PASI in Summer 2007 was dedicated to the development of a particle accelerator exhibit, which presents research in particle physics, in particular, at the CERN Large Hadron Collider. The students created artistic visualizations of a Higgs event in a LHC detector and an interactive model of an accelerator. We are presently preparing for PASI 2008, whose participants will create an exhibit on Symmetry, a concept common to science and art. For more information about PASI, please visit www.physics.buffalo.edu/pasi.

PASI'07 participants in front of Wilson Hall during a one-day field trip to the Fermi National Accelerator Laboratory (Fermilab) near Chicago. Fermilab was founded by Robert Wilson, a physicist and artist, and examples of his artistic work are displayed throughout the laboratory. Fermilab is the location of the world's most powerful particle accelerator, at least until the Large Hadron Collider at Cern, Switzerland, turns on this year.
PHOTO: Gary Nickard

An Einstein slide show lights up Fronczak Hall at the World Year of Physics 2005 event Physics Enlightens the World.
PHOTO: Courtesy of UB Spectrum.

Dr. John Cerne, a.k.a. Professor Einstein, rides on a light wave across campus at the Physics Enlightens the World event.

Physics enlightens the World at UB

By Dr. John Cerne

On April 18, 2005, the 50th anniversary of Albert Einstein's death in Princeton, New Jersey and the 100th anniversary of his "miracle year" when he published seminal papers on the photoelectric effect, special relativity, and Brownian motion, the Department of Physics participated in a world-wide light relay. The relay began with the lighting of the stadium lights at Princeton University, and headed westward, through Buffalo, around the world in 24 hours. Part of the relay was guided by visual contact, but it was mostly controlled over the internet. The celebration at UB included a barbecue, Einstein slide show projected on Fronczak Hall, and a light relay across campus that began with the lighting of our own stadium lights. With the enthusiastic help of the Center for the Arts production staff and over 100 participants, Professor Einstein helped to light the way across campus as well as share a few words about this important day. For more details, see http://www.physics.buffalo.edu/wyp.html and http://spectrum.buffalo.edu/article.php?id=20549.

Banner:
A high school student explores the Wimshurst machine of the cosmic ray shower display at a guided tour of the Physics and Arts Exhibition in Fronczak Hall at UB's Science Exploration Day that targets WNY high-school students interested in science. The cosmic ray shower display was designed by PASI'06 participants, and built by the CAS Machine Shop.

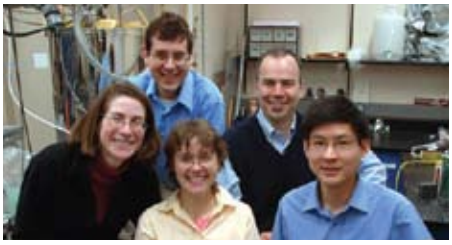
Research News & Awards

Five NSF CAREER Awards for the Department of Physics

By Dr. Doreen Wackeroth

Since 2004, when Dr. Andrea Markelz, Associate Professor of Physics, received the first NSF CAREER award in the Department of Physics, four more physics faculty members have received this award: John Cerne, Doreen Wackeroth, Igor Zutic and Hao Zeng. The Faculty Early Career Development Award, or CAREER award, is the NSF's prestigious recognition of new faculty achievement in both teaching and research. Five-year grants ranging up to $600,000, CAREER awards encourage principal investigators to combine their research projects with an educational element; proposals must tie research to pedagogical applications in the natural sciences.

Dr. Cerne's CAREER grant is funding his experimental study of "strange metals" such as high-temperature superconductors and magnetic semiconductors. Dr. Markelz, a biophysics experimentalist, is developing revolutionary new techniques to determine how protein flexibility affects protein function. Dr. Wackeroth, a theoretical particle physicist, is working on predictions of the Standard Model and its supersymmetric extensions for high-energy collider experiments. Dr. Zutic, a condensed matter theorist, is working on spin transport and spintronic devices, which may lead to new advances in electronics using nanotechnology. Dr. Zeng's CAREER grant, is funding his experimental research of nanoscale materials and devices. More information about the department's research activities can be found at www.physics.buffalo.edu. See also the full article in The Reporter at www.buffalo.edu/reporter/vol37/vol37n26/articles/CAREERAwards.html.



The five NSF CAREER awardees (from left to right): front row: A. Markelz, D. Wackeroth, H. Zeng back row: J. Cerne, I. Zutic. PHOTO: Nancy J. Parisi

UB SPS Chapter selected as Outstanding SPS Chapter for 2006/2007

By Dr. John Cerne

The UB Society of Physics Students (SPS) Chapter was one of five selected in the state of New York to receive an Outstanding Chapter Award. The criteria for the award included attending professional meetings, outreach to the public about physics, community service, and participation in social events. SPS here at UB has been active in tutoring, building a battle-bot and solar cooker, traveling to Cornell's particle accelerator and the Niagara Power Authority for tours, and hosting faculty and student presentations. The club's tutoring of lower level physics courses had made their undergraduate library (Fronczack 337) a regular stop for many introductory physics students. Twice a semester they host faculty talks, where there is always pizza, open to anyone interested. During meetings, the club shares their summer research experiences with each other and shares advice about getting into summer research opportunities and graduate schools. Please check out: http://www.spsnational.org/programs/awards/2007/oca.htm.

Members of UB's Society of Physics Students (SPS) (from left to right): Dan Crowe, Jen Schanke, Bill Falls, Nicholas DeMeglio, Brian Marsh, Stephen Raiman, Alex Kitt, Tim Szczykutowicz, Jonathan Schuster, George Lindberg.

2008 LHCTI fellowship goes to UB graduate student

By Dr. Doreen Wackeroth

Catherine Bernaciak, a graduate student in the High-Energy Physics/Cosmology (HEPCOS) group in the Physics Department, is the recipient of the prestigious $40,000 Large Hadron Collider Theory Initiative (LHCTI) Graduate Fellowship. In 2005 the National Science Foundation established the LHC Theory Initiative, recognizing the need for additional support of young theoretical particle physicists that work on computations relevant for physics at CERN's Large Hadron Collider (LHC). This year the LHCTI awarded one postdoctoral, one graduate and four travel fellowships. The winners were selected through a national competition. Catherine is a native of Pittsburgh, PA, and received her B.S. in Physics from West Virginia University in 2003. She came to UB in the fall of 2004 and plans to graduate in 2011. Catherine's research aims to improve predictions for electroweak observables that are important for the indirect search for the Higgs boson and for the detection of new physics at the LHC. The fellowship provides funds to underwrite the costs of her research, computing and travel needs. The official press release and more information about UB's HEPCOS group can be found at www.physics.buffalo.edu/hepcos.

Catherine Bernaciak, a graduate student in the Physics Department, wins the 2008 LHCTI graduate student fellowship.
PHOTO: Pat Meider

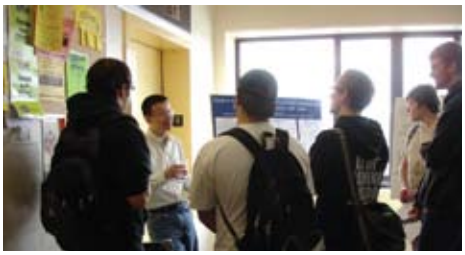
Banner:
Physics major Tim Szczykutowicz wins a Society of Physics Students (SPS) leadership scholarship. Tim is a senior physics major planning on graduating in May 2008 with a bachelors in physics and a minor in mathematics. He was one of 18 students nationally to receive a SPS leadership scholarship for 2007. For the last two years Tim has been SPS president and has organized trips to Cornell's particle accelerator and the Niagara power authority. While Tim has been president, UB's SPS chapter was recognized nationally as an outstanding chapter for 2007. Tim plans on attending graduate school for medical physics starting Fall 2008.

Events

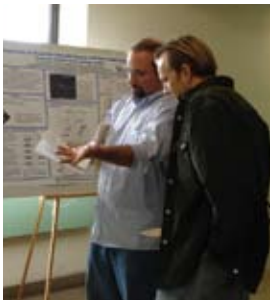
First Physics Open House at UB

By Dr. Andrea Markelz

Curious about what is going on in the UB Physics Department these days? As part of an effort to educate the community on the latest cutting edge science happening at UB, the Department has started a new annual event, the UB Physics Open House. While UB has always had an open house in the fall and Preview Day in the spring, these events were primarily aimed at prospective undergrads and incoming students. The Department wanted to make these days public events that not only serve to showcase our programs for prospective students, but also give the community an opportunity to have fun learning physics. The first physics open house was Saturday Oct. 20, 2007. The day starts with general orientation presentations that include information for prospective graduate students and undergraduate students but also a few large scale demonstrations with shocking results! The groups then go on research lab tours, a multimedia show on high energy and cosmology physics, or the Physics and Arts Exhibit tour. Refreshments give our visitors a chance to mingle with the current undergrad and grad students presenting posters of their research as well as with faculty. We finish with a raffle for a Starbucks card for one of our registered visitors. If you didn't make it this year, please keep an eye and ear open for next year's announcements and join us for the fun.



Dr. Xuedong Hu, Associate Professor of Physics, presents the work of his research group at the first UB Physics Open House.



Dr. Mark Kimball, postdoctoral research associate in Dr. Gasparini's group, explains his research to one of the Physics Open House participants.

Dr. Gasparini and two of the Department's graduate students, Jeffrey Haffner (left) and Chase Ellis (right), at the Physics Open House. In the background Dr. Markelz, Dr. Pralle and Yun-Hsiang Hsu, one of Dr. Pralle's graduate students, discuss a research poster.

Events Calendar

April 4, 2008, 4:30 pm, 225 NSC: Rustgi Lecture by Dr. Lee Smolin (Perimeter Institute) on *Using the Universe as a Microscope to Probe the Micro-structure of Space and Time* www.physics.buffalo.edu/talks/Rustgi-Lectures_list.html#2008

May 14-16, 2008, 120 Clemens Hall: The LoopFest VII, an international workshop on Radiative Corrections for the ILC and LHC www.physics.buffalo.edu/loopfest7

June 28, 2008: The Ride For Roswell, join the UB Physics Department team for a bike ride to raise money for the Roswell Park Cancer Institute www.rideforroswell.org

July 21 – August 8, 2008: Physics and Arts Summer Institute (PASI) 2008 for high school students www.physics.buffalo.edu/pasi

Fall 2008: Fall Open House, guided tours of the Physics and Arts Exhibition in Fronczak Hall

Support the Department of Physics Programs

By Roma Mandzyk

Spring is the time when many of UB's alumni and friends make gifts to the University. If you are one of those people, we thank you for your generous support. The College of Arts and Sciences' Development Office would be happy to help you establish a new gift, or add your support to an existing fund, such as the ones listed below.

To contribute your support electronically, visit www.physics.buffalo.edu and click the Support Physics button on the top right. Please contact Christine Gleason in the Physics Department at 716.645.2017 x112 or via e-mail cg57@buffalo.edu or you may contact Deborah McKinzie in the Development Office at (716) 645-6000, ext 1503, or via email at mckinzie@buffalo.edu with any questions.

Physics Department Funds

Physics Excellence Endowment: Supports recruitment and recognition of outstanding students, outreach to the community, upper level experimental laboratories, undergraduate research projects, and activities of The Society for Physics Students.

Frank B. Silvestro Endowment Fund: Established in 2000 by Mr. Frank Silvestro, BA 1962, MA 1968 the fund supports outstanding students with financial need. Currently used for the support of graduate students.

Dr. Stanley T. Sekula Memorial Scholarship Fund: Established in 1990 by Mrs. Anne H. Sekula, honoring the memory of Dr. Stanley T. Sekula, BA 1951, and used to recognize outstanding undergraduates with financial need.

Moti Lal Rustgi Professorship in Physics: Endowed by the Rustgi family in 2006 to honor the late Professor Moti Lal Rustgi. Provides support for the Rustgi Professor, currently held by Professor Athos Petrou.

Moti Lal Rustgi Memorial Lectureship Fund: Established in 1993 by the Rustgi family, the fund supports an annual lecture by distinguished researchers.

Ta-You Wu Lectureship Fund: Established in 2008 by Professor Yung-Chang Lee in remembrance of the late Professor Ta-You Wu, who was a key member of the Department from 1966 to 1978.

Year of Physics Exhibition: This interactive permanent exhibition in Fronczak Hall opened in 2006, and was funded by alumni. It is one of the Department's most effective outreach initiative. Support will allow continued evolution, development, and upgrade.

Banner: The LoopFest series of workshops started in 2002 as an international workshop on precision calculations and radiative corrections for a future International Linear Collider. Since then Drs. Ulrich Baur and Doreen Wackeroth have co-organized six LoopFest meetings at leading US institutions, such as the Brookhaven National Laboratory, the Kavli Institute for Theoretical Physics at UC Santa Barbara, the Stanford Linear Accelerator Center and the Fermi National Accelerator Laboratory. At the LoopFest meetings leading experts in collider phenomenology from around the world discuss in detail complex calculations in Quantum Field Theory.

The University at Buffalo Department of Physics Newsletter

Members of the UB Physics Department team at the Ride For Roswell 2007 (from left to right): front row: Jeanette Sperhac, Frank Gasparini, Chase Ellis, back row: Will Kinney (team captain), Jeffrey Hafner, Phil Cheung. Not shown are: Arnd Pralle, Andras Sablauer, Vincent and Sarahrose Whiteside. The Department raised $1,600 for the Roswell Park Cancer Institute.

In this Issue:

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