

# Physics and Astronomy



## *Chairman injured by enraged elephant !*

*While on vacation in South Africa, Chairman Paul Grannis and his wife Barbara were lucky to escape with their lives when their open safari vehicle inadvertently came between a mother elephant and her calf. 6 tons of female fury crashed into the side of the vehicle, buckling the steel safety bar, and tipping it off the ground. Fortunately, the vehicle did not roll all the way over or the passengers might not have lived to tell their tale!*

### Letter from the Chair

Greetings to all: One of the very best things about academic life is that it is so clearly delineated in semesters that have a beginning, middle and end. So twice a year, we get a sense of achievement and opportunity to start again with a fresh slate. This year it is particularly pleasant to reach the end of the academic year, look forward to the delayed arrival of Spring in Stony Brook, make grandiose plans for the summer, and reflect on the year just past.

In September, Tom Weinacht joined our faculty and has already set up his lab and attracted a substantial grant from the NSF for his work in atomic, molecular and optical physics. Tom's program seeks to control chemical reactions through shaped laser pulses constructed by rapid feedback from the reactions themselves, using a learning algorithm that allows rapid convergence. In spring, Concha Gonzalez-Garcia arrived in the Yang Institute for Theoretical Physics and the Department. Her work focuses on a broad range of neutrino properties, and was epitomized in a recent paper that deduces the pattern of neutrino masses and mixings from the wealth of recent data. We are delighted that both have joined us. We do regret however that Luis Orozco

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## Bachelor's Degrees 2002-2003

December 2002

Daniel Dasilva  
Brian Fix  
James Tedesco (Physics Minor)

May 2003

Michael Adler  
Douglas W. Broege  
Matthew Bubelnik  
Constantinos V. Constantinou  
Tara Falcone  
Gregory D. Grinberg  
Evan Guarnaccia  
Victor Kim  
Han K. Kim  
Corinne M. Lamb  
Jiann H. Lee  
Vincent A. Lore  
Jose A. Mawyin  
Jory N. Meltzer  
Fouad Nasraddine  
Fermin Nunez  
Gurprett Singh  
Christopher F. Werth  
Mang Y. Wong (Physics Minor)  
Weifeng Zhou

## Sigma Pi Sigma

Physics National Honor Society  
25th Annual  
Induction

Michael A. Adler  
Tara Falcone  
Gregory D. Grinberg  
Evan Guarnaccia  
Rita R. Kalra  
Megumi Kinoshita  
Fouad Nasraddine  
Jason M. Pawlowski  
Samantha P. Roberts  
Nikita L. Simonian  
Christopher F. Werth  
Chui Y. Woo  
Adi Zolotov

## Awards and Prizes

### FACULTY

**Phil Allen** was awarded a Guggenheim fellowship for 2002-2003.

**Gerry Brown** was awarded the Wilbur Lucius Cross medal of the Yale Graduate School Alumni Association as a distinguished alumnus.

**Bob deZafra** was the 2002 Man of the Year in Civic Affairs (Three Village Times/Herald) for his leadership in the local Three Village area.

**Chris Jacobsen** has been elected a Fellow of the American Association for the Advancement of Science.

**Chris Jacobsen** was awarded the Department's Faculty Teaching Award.

**Chang Kee Jung, Jack Marburger, and Alexei Tselik** were elected Fellows of the American Physical Society.

**Ken Lanzetta** was one of three Stony Brook faculty honored by Chancellor King in October for their excellence in research, at the annual Research Recognition dinner in Albany.

**Kostya Likharev, Barry McCoy, and Edward Shuryak** have been appointed Distinguished Professors by the SUNY Chancellor.

**Hal Metcalf** has been appointed Debye Hoogleraar (Debye Lecturer) at the University of Utrecht for the Spring 2003 semester.

**Bob McGrath** received the Iowa Distinguished Alumni Achievement Award, 2002.

**Laszlo Mihaly** was awarded the Chancellor's Award for Excellence in Teaching.

**Peter Paul** was inducted into the Long Island Hall of Fame in recognition of his service as interim Director of Brookhaven National Laboratory.

**Deane Peterson** was the 2002 Man of the Year in Science (Three Village Times/Herald) for instituting and running the popular Astronomy Open Night Series.

**George Sterman** was awarded the 2003 American Physical Society J.J. Sakurai Prize for outstanding contributions in theoretical particle physics.

## Awards and Prizes

### STUDENTS

**Seth Aubin** and **Carola Berger** received the President's Award to Distinguished Doctoral Students.

**Takeshi Koike** and **Joseph Reiner** received the Graduate Council Commendation to Distinguished Doctoral Students.

**Carola Berger** and **Lilia Anguelova** received the 2003 Gertrude Scharff-Goldhaber Prize, (see picture on page 12).

**Achim Schwenk** was awarded the Max Dresden Prize for the Outstanding Theoretical Thesis.

**Matthew Malek** was awarded the Lee Wilcox Prize for the Outstanding Experimental Thesis.

**Anne Sickles** was awarded the Henry B. Silsbee Prize for the overall Outstanding Graduate Student.

**Matthew Eardley** received the David Fox Prize for the Outstanding Teaching Assistant.

**Lai-Wa Stella Siu** was awarded the Di Tian Prize for the Outstanding Asian student.

Peter B. Kahn Prizes for travel to conferences were awarded to: **Bryan Field**, **Fabio Franchini**, **Xiyue Miao**, and **David Shapiro**.

**Joseph Reiner** was awarded a National Research Council fellowship to work at NIST.

**Koon-Kiu Yan** received the Pond Prize for the highest Comprehensive Exam score.

**Corinne Lamb** and **Christopher Werth** were awarded Undergraduate Recognition Awards for outstanding leadership and service.

**Corrine Lamb** and **Jory Meltzer** were elected to Phi Beta Kappa.

**Corinne Lamb** received the John Toll Prize to the Outstanding Senior.

**Douglas Broege** was awarded the Soroff Prize for Outstanding Undergraduate Contribution in Physics.

**Constantinos Constantinou** was awarded the Jefferson Award for academic recognition.

**Christopher Werth** shared the honor as Valedictorian for the Class of 2003.

## Master's Degrees 2002-2003

December 2002

Matthew Carmell  
Xiangyun Chang  
Fabio Franchini  
Manuela Kulaxizi  
Zhenguo Wang

May 2003

Douglas Bennett  
David Cardoza  
Ilektra Christidi  
James Cook  
Frank Dimler  
Holger Fleckenstein  
Haijiang Gong  
Benhamin Hornberger  
AKM Newaz  
Patrick Nuernberger  
Daniel Pertot  
Moustapha Thioye  
Jing Wang  
Daniel Yohannes

## MSI Degrees

May 2003

Babak Azmoun  
Lee Hammons

## Happenings

### SMARTS Consortium

Stony Brook, together with Yale, the American Museum of Natural History, Ohio State, Johns Hopkins, and Georgia State is a member of the newly formed SMARTS consortium that will operate three 1-meter class telescopes at Cerro Tololo in Chile. The arrangement brings about 100 nights of observation per year for Stony Brook. Pictures of the telescopes can be found at: <http://www.ctio.noao.edu/~whiting/smartspix.html>. Fred Walter and Michal Simon spearheaded the Stony Brook participation.

### EPENS '02

The International Workshop on Electron-Phonon Effects in Nanosystems was held in Montauk, September 23-25, 2002. About 80 participants from all over the world discussed the electronic properties of nanosystems which are influenced by electron-phonon (vibronic) effects. Interdisciplinary discussions between physicists and chemists was encouraged by inviting leading experts in theoretical and experimental condensed matter physics, chemistry and materials science. The co-chairs included Phil Allen and László Mihály, Phil's former student Vasili Perebeinos (currently at BNL-Physics) and Marshall D. Newton (BNL-Chemistry). Before the meeting, on the 22nd of September, some workshop participants and many other guests celebrated Phil's 60th birthday.

### LEES '02

The International Meeting on the Low Energy Electrodynamics in Solids, was also held in Montauk, October 13-18. This was the fifth meeting in the series, with previous ones in Germany, Czech Republic, Switzerland and Hungary. Nearly 100 scientists from the US, Canada, several European countries, Korea and Japan attended. K. Alex Muller, the Nobelist for the discovery of the high T<sub>c</sub> superconductors, led the discussions in one of the sessions. According to many enthusiastic participants, the talks were interesting, and sufficiently varied to have something new for everybody. People appreciated the opportunity of having in-depth coverage of topics, and long "after hours" discussions, going well beyond the typical short chats that a larger meeting would allow for. The organizers were László Mihály, Larry Carr (BNL-NSLS) and Peter Johnson (BNL-Physics). The conference was supported by the National Synchrotron Light Source, the Department of Energy, Brookhaven Science Associates, Stony Brook University and several industrial sponsors.

### NEUTRINOS

The conference "Neutrinos and Implications for Physics Beyond the Standard Model" was held by the C.N. Yang Institute for Theoretical Physics (YITP) on October 11-13, 2002. The evidence for neutrino masses and lepton mixing constitutes the first physics beyond the Standard Model of elementary particle physics and, as such, has great importance. The conference featured a number of speakers in both theoretical and experimental areas. The main organizer for the conference was Prof. Robert Shrock, who has worked for many years on neutrino physics, with help from the YITP Director, Prof. George Sterman, and the rest of the YITP organizing committee, and from Doreen Matesich, Betty Gasparino, and Chi-Ming Hung. The founding director of the (Y) ITP, Prof. C.N. Yang, made some remarks, and the participants had the pleasure of congratulating Dr. Ray Davis, a co-recipient of the 2002 Nobel Prize in physics for his observation of solar neutrinos. Indeed, the announcement of this prize occurred just a few days before the conference, lending the conference a special historical significance. The talks continue to be available at the web site: <http://insti.physics.sunysb.edu/itp/conf/neutrino.html>. The conference proceedings will be published in due course. In addition to financial support by YITP funds and the YITP NSF grant, the conference received support from the office of the Stony Brook Provost, and from a special grant from the DOE. As the talks made clear, neutrino physics is one of the areas in which there has been the most important recent progress and in which there are very appealing opportunities for researchers.

## Happenings

### A Conversation between a Composer and a Physicist



For more than 10 years now, composer Carlos Sánchez-Gutiérrez, and physicist Luis Orozco, have been talking about science and art. On January 31, they continued their conversation in Room S-240, which had been miraculously transformed for the occasion into a very pleasant space by Bob Segnini, Richie Bersack, Pam Burris, and Sara Lutterbie. Co-sponsored by the Dept. of Physics & Astronomy and the Dept. of Music, with support from the Office of the Vice President for Research, the event brought together faculty, students and members of the local community for conversation and conviviality across the disciplines. With moderator, Sandy Petrey, interim Chair of Theatre Arts, Carlos and

Luis exchanged thoughts on what constitutes a 'good idea' in music and in physics; what are the languages and rules of the two disciplines that allow the creation and recreation of ideas? How do they each create? Where do they start? With a gut feeling? How important are pre-conceived notions of beauty, or aesthetics? Do they guide or limit the choices that are ultimately made? Luis asks: "Can science and art, two of the great human enterprises, dialogue or have a conversation? I do not know, but I am a great believer that a scientist and an artist can talk and should talk whenever possible, and something good can come out of it." We hope that this event was just the first in a series of such conversations. Watch for announcements in the future!

## Conferences Coming Up

**James H. Simons Conference on Quantum and Reversible Computation**, will be held at Stony Brook, May 28-31, 2003.

Sponsored by the C.N. Yang Institute for Theoretical Physics, the Department of Physics & Astronomy and the Institute for Mathematical Sciences, Mathematics Department, the Organizing Committee includes:

Alexandre Abanov, Dmitri Averin, Thomas Bergeman, James Glimm, Paul Grannis, Detlef Gromoll, Alexander Kirillov, Vladimir Korepin (Chairman), H. Blaine Lawson, Konstantin Likharev, James Lukens, Harold Metcalf, John Milnor, Sorin Popescu, Michael Rijssenbeek, Vasili Semenov, Robert Shrock, George Sterman, Scott Sutherland, Jacobus Verbaarschot and William Weisberger.

Quantum information and quantum computation is a rapidly developing field, attracting interest from mathematicians, physicists, and computer scientists. The goal of this conference is to generate interaction between these communities in trying to build quantum computers. We will stimulate this interaction with lectures on recent developments by world-experts. We shall have lectures on quantum algorithms, quantum information theory, cryptography, entanglement and quantum error correcting codes [ we shall have a special lecture on modular functions. We shall organize lectures on recent developments in fractional quantum hall effect, Josephson-junction, QED cavities, ion traps and quantum optical systems.

The conference will also cover reversible information processing, which is of interest in classical as well as in quantum computing. The reversible nature of the quantum evolution of isolated systems makes logical reversibility on the classical level a prerequisite for any realization of a quantum computer. Reversible computing does not generate the heat associated with information erasure, and is therefore of interest in reducing the heat produced by classical computers.

### Ayse Erzan wins L'Oréal and UNESCO award

Congratulations to Ayse Erzan, PhD 1976, one of five women worldwide to receive the prestigious L'Oréal and UNESCO Award "for women in science", recognizing lifetime achievements by women in condensed matter sciences. Ayse wrote a dissertation entitled "Variational and Spherical Approximations in the Study of Critical Phenomena and Phase Transitions", supervised by George Stell of the Chemistry Department. The other members of her committee were Barry McCoy, Erle Graf, and the late Vic Emory.

After completing the PhD at Stony Brook, Ayse returned home to Turkey, only to leave a few years later in the wake of a military coup. For the next ten years she worked at institutions in Switzerland, Portugal, Germany, the Netherlands, and Italy before returning to Turkey in 1990.

### Sigma Pi Sigma



At a ceremony on April 25, thirteen outstanding Physics students were inducted into Sigma Pi Sigma. The students were introduced by Hal Metcalf, Sigma Pi Sigma Chapter Advisor, (in academic regalia) and addressed by Professor Steven A. Feller, President, Sigma Pi Sigma (far left).

The inductees (pictured from left to right above): Nikita Simonian, Jason Pawlowski, Samantha Roberts, Chui Woo, Rita Kalra, Tara Falcone, Christopher Werth, Gregory Grinberg, Evan Guarnaccia, Michael Adler.

Not in the picture: Megumi Kinoshita, Fouad Nasraddine, and Adi Zolotov.

### Celebration of Undergraduate Research

The University at Stony Brook values research and creative activity as an integral component of undergraduate education. Every year, it recognizes those undergraduate students who have accepted the challenge to become involved in research and creative activity by sponsoring a Celebration of Undergraduate Research & Creative Activity. During this year's Celebration which was held on April 9th, the Student Activities Center was filled with student poster presentations, displays, demonstrations, live performances, films, and art exhibits. This year's Physics & Astronomy participants were:

Ronen Akkaay	(Kris Starosta)
Douglas Broege	(Tom Weinacht)
Thomas Fiero	(Gary Halada, Materials Science)
Evan Guarnaccia	(Neutrino Group)
James Hoffmann	(Michael Rijssenbeek)
Rita Kalra	(Tom Hemmick)
Adam Martin	(Larry Reinstein, Radiation Oncology)
Jose Mawyin	(Harold Metcalf)
Jason Pawlowski	(Madappa Prakash)
James Scholtz	(Laser Teaching Center)



## Peter B. Kahn

Peter Kahn, who joined the faculty in 1961, has retired after more than 40 years as a member of the Department. In view of his long and dedicated service to the University; his seminal contributions to the building of this Department of Physics & Astronomy; his special contributions to the founding and nurturing of the Math/Physics/Astronomy library; and the generosity he has shown to the multitude of Stony Brook students; Peter's friends in the University Libraries and the Department are pleased to announce that the space formerly called the Math/Physics/Astronomy library should henceforth be known as the Peter B. Kahn Library of Mathematics, Physics and Astronomy.

In March, a party was held in his honor, and letters were read from people who were unable to be present. Among them was John Toll, first President of the University: "Your role was especially remarkable because you were totally unselfish ... you always did what was necessary so that other people could perform well, and gave them credit for the advances that were made."

A letter was also received from what Paul Grannis called "a couple of wildly non-traditional students" Shaul Shaul and Erwin Goldmark: "In 1968, fresh out from Suffolk Community College, we arrived in Stony Brook—two middle aged navigators flying about once weekly for El Al, the Israeli flag carrier. Peter, then the Chairman of the Physics Department, was a bit incredulous during the acceptance interview: coming, at the age of 38, graduates from a so-so Community College, each burdened with a wife and a few children at school, desiring to attempt B.Sc. in physics, while continuing to earn a living as active air crew—this seemed a little far fetched to him, considering the bright young native and Chinese students with whom we were to compete for grades, no quarter given. By the time one reaches middle age one acquires a measure of cunning, so we did not stretch our luck during these years by enlisting into any of the courses thought by Peter to be those hard diamonds, a cup of tea only for the truly top graduates. He took this kindly, for after a short while in the university, he judged correctly that we were good, but not exceptional and we accepted this, never attempting to prove him wrong. What he insisted though, was for us, being from the tribe of the People of the Book, to read, study and buy for keeps only the best texts published. His was the rare gift of picking from the deluge of publications the truly outstanding books in the numerous fields he was interested in."

Sid Gelber, Academic Vice President and Provost for many years, wrote: "Peter proved to be one of the most persistent and well-prepared spokesmen for his department and its personnel ... Some saw Peter as the paradigm of the dedicated chairperson. In fact it had been suggested that Peter should have written a handbook for 'the successful chair'."

*Below:* former Chairs of the Department at the celebration: l. to r. Arnie Feingold, Alec Pond, Peter Kahn, Gene Sprouse, Janos Kirz, and the current Chair, Paul Grannis.



## 2002-2003 Ph.D.s

Lilia Anguelova\*\*\*

*Special holonomy spaces in supergravity and string/M-theory* (Rocek)

Seth Aubin\*\*\*

*Efficient trapping of Francium for parity violation measurements* (Orozco)

Carola Berger\*\*

*Soft gluon exponentiation and resummation* (Sterman)

Tirthabir Biswas\*\*\*

*Extra dimensions in High Energy Physics* (Siegel)

Fernando Camino\*\*\*

*Shot-noise measurements as a probe to study semiconductor devices* (Mendez)

Javier Cardona\*\*\*

*Linear and non-linear studies at RHIC: interaction regions and optical design of the RCMS* (Peggs)

Todd Clatterbuck\*\*

*High harmonic generation from N intense mid-infrared light source* (DiMauro)

Ashfia Huq\*\*

*Structure & transport of alkali doped Fullerenes* (Stephens)

Alberto Iglesias\*\*\*

*Cosmological constant problem and Brane World* (van Nieuwenhuizen)

Jiangyong Jia\*\*\*

*Charged Hadron transverse momentum spectra at RHIC* (Drees)

Daniel Kaplan\*\*

*Single-electron charge transfer in tunneling arrays* (Likharev)

Jinyoung Serena Kim\*

*Low Mass Star Formation in the Gum Nebula* (Walter)

Yusuf Kinkhabwala\*\*\*

*A theoretical study of shot noise at hopping* (Likharev)

Bertram Klein\*\*\*

*Random matrix models for QCD at finite chemical potential* (Verbaarschot)

Takeshi Koike\*\*\*

*Systematic search of  $h_{11/2} \times h_{11/2}$  chiral doublet bands and role of triaxiality in odd-odd  $Z=55$*

*Isotopes: 128, 130, 132, 134Cs* (Fossan)

Oleg Kritsun\*\*\*

*Atom optics with the Rydberg States* (Metcalf)

Tibor Kúcs\*\*\*

*Resummation techniques in QCD* (Sterman)

Chi-Lun Lee\*\*

*I. Studies on the self-consistent Ornstein-Zernike Approximation. II. A study on the protein-folding problem using a statistical energy landscape theory* (Stephens)

Tianfang Li\*\*\*

*Quantitative reconstruction for brain SPECT with fan-beam collimators* (Stephens)

Matthew Malek\*\*\*

*Search for supernova relic neutrinos at Super-Kamiokande* (Jung)

Christopher Mauger\*

*A study of  $\mu$ -tau- $\mu$  oscillation of atmospheric neutrinos using a K2K near detector measurement* (Jung)

Filipe Moura\*\*\*

*Quantum corrections to supergravity theories* (Rocek)

Sergey Pflyuk\*\*\*

*Interaction of Josephson junction circuits with electromagnetic waves* (Semenov)

Joseph Reiner\*\*\*

*Conditional measurements in cavity QED: from quantum feedback to cold atoms* (Orozco)

Juana Rudati\*\*

*A study of strong field double ionization of rare gases* (DiMauro)

William Sherry\*\*\*

*The young low-mass population of Orion's Belt* (Walter)

Wade Smith\*\*

*Quantum feedback in a cavity QED system* (Orozco)

Aaron Stein\*\*

*Focusing optics for soft and hard X-rays: fabrication, replication and simulations* (Jacobsen)

Natasa Stojic\*\*

*Density functional calculations of magnetic properties of the Uranium (001) surface* (Glimm)

Corrie Vaa\*\*

*Measurement of the ray-splitting correction to the Weyl formula (Koch)*

Keith Welsh\*\*

*Design of a portable accelerator based neutron source for local radiation treatment of cancer (Jacobsen)*

Gabor Zala\*\*\*

*Interaction effects in low-dimensional disordered systems (Aleiner)*

\* Dec. '02 , \*\* May '03, \*\*\*Aug. '03

Continued from Page 1

has decided to move to the University of Maryland in September, where he will help lead a substantial new program in atomic physics, and that Peter Kahn has retired from active duty (see article on Page 7).

Chris Jacobsen started this year as the Undergraduate Program Director, and has set a number of initiatives in train. We now have new courses that outline research trends for Sophomores in both astronomy and physics. Chang Kee Jung is instituting a new course called "Physics of Sport" which will introduce physics as applied to athletic activities as diverse as throwing javelins and snowboarding. The graduating seniors this year are an exceptionally strong group, as evidenced by the 13 members of the class who were inducted into the Sigma Pi Sigma honorary society. And the interest of entering undergraduates for study in physics and astronomy has grown enormously, as evidenced by the many visits made by prospective students.

This is the last year that Peter Stephens will serve as Graduate Program Director and he plans a well deserved sabbatical leave next year. Laszlo Mihaly will take over the leadership of the graduate program in June. Recruitment of new graduate students was quite successful this year. Our targets were somewhat lower due to the exceptionally large class admitted last fall, but we see that both the quality of those applying, and the fraction of those admitted who accept our offer are rising. Among the 23 students who will join us in fall are 3 fellowship students. And at the other end of the graduate experience, we anticipate awarding 30 newly minted Ph.D.s over the past year - placing us in the top few nationally in this important measure of our success.

The production of new research results is one of our chief goals, and the one by which we are recognized internationally. We continue to generate the largest sponsored research income in the University, and the results of our work are often spectacular. We now operate a group of one-meter class telescopes and are developing plans for a major new telescope that would have the largest aperture in the world. We are leading efforts to build new major facilities for particle and heavy ion research - a large underground detector for neutrino observations and proton decay, a new capability for the RHIC collider at Brookhaven Laboratory that would allow polarized proton interactions, and an international collaborative project for a 500 GeV electron-positron linear collider. We have initiated a new Environmental Molecular Sciences Center, funded by the NSF, with collaborators from across campus and Brookhaven Lab. We have entered into exciting new terrain in seeking to develop massively parallel computing engines through chemical self-assembly of molecular transistors. And the results of our research are recognized at both faculty and student levels, with the many awards detailed elsewhere in this newsletter.

We recognize our responsibility to bring a better understanding of science to the general community. Our long-standing "Astronomy Open Night" program brings recent discoveries to the public each month, with continued large turnout (and community recognition through the "Man of the Year in Science" award for Deane Peterson). This series has been joined by "Worlds of Physics" that highlights new physics ideas each month. We participate in Quarknet, a program to bring particle physics ideas and projects into the secondary curriculum. We are revamping our Master of Arts in Teaching to help fill the need for improved science education in the schools. And on campus, we held a delightful exploration of the creative process in physics and musical composition with a 'conversation' between Luis Orozco and acclaimed composer Carlos Sanchez-Gutierrez that was attended by over 100 people.

Seen from the vantage point of this annual snapshot, we see that there have been great accomplishments made and new initiatives taken by our faculty, students and staff. The Department is unusually constructive and cohesive, and this enables us to do much with what we have, even in a dismal budget climate as we presently have in New York State. We very much hope that those of you who are away from the Department will keep in touch - at least through our Department web page <http://insti.physics.sunysb.edu/Physics/>, but even better by visiting us at Stony Brook. We are proud of what we do, and of those who have made such great accomplishments over the years.

## Where Are They Now?

Paul Kramer, Faculty, August 1964 through summer 1969. "I started at Farmingdale in September 1969, where I remain today. I worked in the bubble chamber group under Juliet Lee-Franzini who I believe started at Stony Brook in either 1968 or early 1969. I was recruited through her husband Paolo who was at Columbia. My PhD advisor, Dick Plano at Rutgers, was a collaborator with the Columbia bubble chamber group. I also worked under Malcolm Skolnick who arrived in about 1966. For a time, I headed the campus Computer Assisted Instruction lab."

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Chungpeng (Ben) Fan, PhD 1969, wandered from academia into industry after some post-doctoral research on liquid crystals and phase transition. He worked as a simulation specialist on instrumentation and control of nuclear reactor and boiler until 1984, being finally convinced that continuing to work for the US nuclear industry would be hazardous to the welfare of his young family. He joined Bell Communications Research and later AT&T Bell Labs and spent close to two decades in telecommunications and fiber optics R&D. He was sent to Beijing, China by Lucent Technologies for two years on an expatriate assignment. After a short year-long span of early retirement, he is now working as a part-time consultant for AT&T Labs. Ben lost his first wife, Yann-Chiao, also a SUNY alumnae, in 1996 after 29 years of marriage. His last visit to Stony Brook was to join the celebration part for Prof. C.N. Yang's retirement. Ben was married on Thanksgiving Day 2000 to Lucy and they now live in Dayton, NJ. He can be reached by email at: fanc@att.com.

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John T. Lau, BS 1970, is the President of Applied Info in Somerset, NJ.

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Rudy Lehr, BS 1971, has taught High School Physics for 30 years (retiring in 2004). He is President of Breadquarters, Inc., purveyors of gourmet baked goods to many locations in the HamPtons. He loves observational Astronomy from his dark sky location.

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Robert Giambalvo, BS 1973, is a home improvement contractor in West Hempstead, NY. He would like to hear from the girls and guys he met in Irving and O'Neill dorms in '72 and '73.

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Gail I. Schuman, BS 1973, is a Physician at Good Samaritan Hospital.

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Fred Ost, BS 1974, received an MS in health physics (radiation protection) at the University of Michigan in 1976. Then he "worked for 1 1/2 years as a health physicist (HP) at Columbia University in NYC. In 1978 [he] appeared nation-wide on a TV commercial for Dannon yogurt (having decorated [his] Stony Brook and Michigan dorm rooms with thousands of lids from their yogurt tops). Alas, Hollywood never called, so then it was on to Commonwealth Edison Co. in Chicago (the electric utility serving northern Illinois) from 1978 to 1998 as an HP at Zion Nuclear Station and then in the corporate office. Got laid off in 1998. After attending a local computer programming school, [he] worked at Hewitt Assoc. (they run health and welfare plans for many large companies) near Chicago." In June he started work as a contractor technical writer for Abbott Labs, a pharmaceutical company near Chicago. Fred has two daughters (18 & 13) and a son (15).

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Maureen Fitzpatrick, BS 1977, is an EDi specialist in the IT Dept of Tanning Research Labs in Ormond Beach, FL.

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Alexander D. Luis, BS 1977, teaches Math at Boston Latin School in Boston, MA.

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Margareta Rehak, BS 1978, is an Engineer at Brookhaven National Lab.

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Bob Knoell, BS 1979, MS Materials Engineering at Stevens Inst. Tech. In 1985 and MS Engineering Management at Wayne State Univ. 1996. Was a member of AT & T Bell Labs technical staff 1980-1990, and is currently a Technical Fellow in the Electronics Division of Ford/Visteon in Dearborn, MI. Married with two daughters (18 & 21).

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Adam Prawzinsky, BS 1980, is a Surgeon in Scottsdale, AZ.

Tim Castellano, BS 1983, received the PhD in 2001 from UC Santa Cruz, and is currently an Astronomer at NASA Ames Research Center, working on searches for extrasolar planets by the transit method.

Margaret L. Kittelsen, BS 1984, is an Industrial Engineer with Pall Corp. in Hauppauge, NY.

John C. Frayne, BS 1985, is a Civil Engineer in Croton-on-Hudson, NY, and a part-time ski instructor at Thunder Ridge. He enjoys Enduros/cycling, and has two daughters (10 & 12).

Gregory Liu, BS 1986, joined the Air Force after graduation and flew B-52s in the Gulf War. He is now with the FBI working in Lower Manhattan. He says that he's "followed an atypical career path for a Physics student, but 'F=MA' and 'V=IR' have held me in good stead in much of my work".

Stuart Weiser, BS 1986, decided against a career in physics, instead going into international trade law. He is currently Counsel to the Vice Chairman of the U.S. International Trade Commission in Washington, DC. He'd love to hear from his old classmates.

Keith J. Bandura, BS 1987, is teaching Physics and Math at Chester High School in Chester, NY.

Tina Kaarsberg, PhD 1988, was the featured speaker at the Department Commencement ceremony on May 23. Tina is presently serving as a member of the staff of the U.S. House of Representatives Committee on Science.

Edward Pascuzzi, BS 1988, is teaching AP Physics on Long Island. Ed reports that he recently took his students on a field trip to Brooklyn's Urban Glass. "Urban Glass is the world's only public access glass-making facility, and offers tours, courses at all levels and a fascinating gallery of hand-made glass artwork created by some of the world's finest artisans. Additionally, the subject of glassmaking is an ideal application of the properties of calorimetry (heat transfer), fluid flow (viscosity), as well as a host of other topics in physics."

Diana Murray, BS 1989, is an Assistant Professor in the Dept. of Microbiology & Immunology at Cornell University.

Thomas E. Lynch, Jr., BS 1990, teaches High School Physics in Dix Hills, NY. He wrote and published "Advance Organizers: Physics", graphic organizers used to teach High School Physics.

Leonid Rokhinson, PhD 1997, has accepted an Assistant Professor position at Purdue University, Department of Physics.

Richard Gross, BS 1999, is pursuing a graduate degree in Chemistry at Stony Brook.

Jianzhong (John) Jiang, PhD 1999, is the Deputy Chief Technology Officer, Homeland Security and Professional Services of Lockheed Martin Information Technology in Washington, DC

Mike Dafferner, BS 2000, is a Satellite Controller with Sirius Satellite Radio.

Svetoslav Dimov, BS 2001, is doing graduate work in Physics at Cornell University.

### 2002 Service Awards

The following members of the Department were honored for their years of service to Stony Brook University:

35 Years of Service:	Alfred Goldhaber Erlend Graf Barry McCoy Peter Paul John Smith
30 Years of Service:	Roderich Engelmann Robert McCaathy
25 Years of Service:	Amos Yahil
20 Years of Service:	Betty Gasparino Peter Koch Madappa Prakash Martin Rocek

### Gertrude Goldhaber Prize

*Left to Right (front row): Sally Dawson (BNL, Adjunct SB), Vinita Ghosh (BNL), Carola Berger (SB Recipient)  
(back row): Martin Rocek (SB), Lilia Anguelova (SB Recipient), Maurice Goldhaber (BNL Emeritus, SB Adjunct)*





Bonnie Smart of our Electronics Center said "I Do" on March 15, 2003 to Allen Kirsch. She and Allen are expecting their first Baby Girl this fall.

Bonnie has been a part of the Physics Family since her Undergraduate days, but we won't mention how many years ago that was.

Congratulations Bonnie!

Walter Schmeling has taken over as Interim Manager of the Physics and Astronomy Machine Shop after the retirement of Richard Yoepp in late December. In his capacity as Manager of the Shop, Walter is responsible for the overall Shop operations which include coordinating and prioritizing project fabrication with our Shop Staff, ordering materials, maintaining the Shop budget, project design consultation, cost estimating, and project invoicing. Walter is a highly skilled machinist with a wide range of experience in manufacturing operations, product design, and AutoCad.

Congratulations to new granddad Jeff Slechta. His grandson Eric Richard Broillet was born on January 7, 2003.

Congratulations to Joe Feliciano for being elected to the Statewide Executive Board of UUP. Joe starts as a Board Member on June 1st. The Statewide Executive Board deals with many important issues that directly affect our Stony Brook UUP employees. A small sample include approval of the State employment contract for UUP members, State contract terms and conditions of employment, and the overall UUP Constitution.

## Roth Pond Regatta 2003



The Department Instructional Labs Work Study staff designed and built this sleek craft for the Roth Pond Regatta. The boat *April Turns 21* was captained by Fraz Asif, with oarsman Idriss Alrobaye, and built by: Minji Shen, Debbie Yu, Songyi Zehn, Michael Kim, Kwang Choi, and Odalis Hernandez.

Stony Brook University is an AA/EOE educator/employer.



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